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No. 2.

Burned Money and its Restoration.

It will be remembered that the American Express Company had several safes in the cars that were burned at the railroad disaster near Tioga Center, N. Y., Jan. 23. The Company did not open the safes—as they contained, among other things, paper money, that if burned would be destroyed beyond all hope of redemption if carefully handled—but sent them to Washington to be opened in the basement of the Treasury by the experts from the redemption division of the Treasurer's office. In the burnt mass were found jewelry, including a lot of diamonds and watches, gold and silver coin, legal-tender notes, National Bank notes, Government coupons, and railroad bonds. The coin was melted in all manner of shapes. The jewelry, except the diamonds, is worthless. The burned legal tender notes were a black mass, with slight crevices on the sides, showing the separation of note from note. The scaly and brittle remains were separated with great care. The experts, by examination, were enabled to identify the notes, together with their respective numbers. They will be replaced by new ones. One young lady is busy on the coupons, and has identified a number of 4 per cent. coupons representing \$500 each, and 4 1/2 per cent. coupons representing \$11.72 each. These will also be redeemed. Such is the expertness with which, apparently, nothing but black brittle masses are handled, that it is very likely that every note, coupon, and bond that was burned will be separated and identified.

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THE SCIO EARTHQUAKE.—Great damage was done by an earthquake in the island of Scio, one of the best known of the islands of the Grecian Archipelago, on Sunday, April 3. In the chief town, Kastor, with 15,000 inhabitants, three or four thousand persons were killed and wounded, and but fifty houses were left standing. Later reports state that thirty villages, in other parts of the island, were wrecked, and as many as 40,000 people were made destitute. The entire number of victims is estimated at 5,000. The shocks were widely felt among the islands and along the coasts of the mainland.

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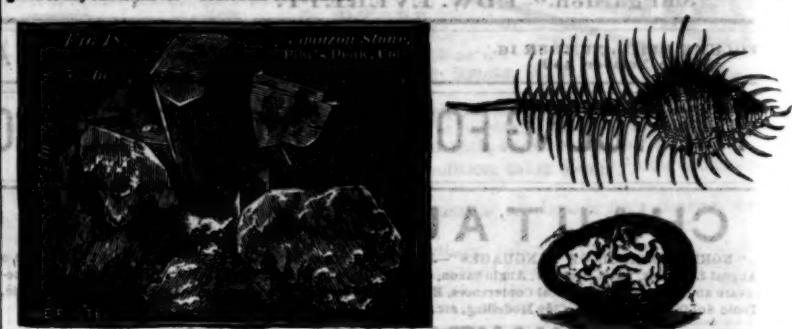
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New York, April 16, 1881.

To All Those in Arrears.

We are pleased with the promptness with which many of the subscribers to the SCHOOL JOURNAL have responded to the subscription bills mailed to them last week. There still remain a large number from whom we have not heard. We would remind all who are yet in arrears on subscription account, that a remittance of the money would be esteemed a favor. Shall we not hear from all such during the next 10 days?

Our Debt to Free Education.

Adjoining the chapel connected with the church where Shakespeare is buried, in Stratford-upon-Avon is an ancient Guild Hall, a building supposed to have been erected toward the close of the thirteenth century. It was occupied by the fraternity of the Holy Cross; and in the reign of Edward Sixth, an

ecclesiastic named Jolyffe founded a school. A charter was granted by this King not more than a fortnight before his death, which ordered the master of this school to receive £100 annually and the use of a dwelling house from the corporation. And the school was to be free; any boy seven years of age, able to read and write was to be admitted.

Now mark the result. In 1564, William Shakespeare was born, about ten years after this school was founded; and it is conceded by all that here he received his education. That such a school existed, was as important as that Shakespeare was born. What is genius without education? To have put the Promethean torch into such a hand is glory enough for that free grammar school.

What did he Mean?

When Governor Porter of Indiana, stood before the teachers last December, he had just been elected and felt very pleasant and this is what he said:

"I have come here to-day to show you that I feel an interest in the cause of education. I hope that when you are here again I shall be able to throw open to you my hospitable doors, and receive and welcome persons engaged in so grand and important a cause. You are engaged in a more important work than I shall be when put at the head of the State. You are preparing those who are to take charge of the State a few years hence. I now have only to say that when I shall be installed in office, I trust you will feel that there is one at the head of the State who estimates your services, and will sympathize with you in all your good and great undertakings."

"Bye and bye" is easily said according to Shakespeare. And the importance of the teachers work is the theme of every politician; and those same politicians will then go and appoint incompetent persons. In nearly every town the politician names the trustees, and the trustees or board run the schools as though they "sympathized with the teachers in all their good and great undertakings," don't they?

Governor Porter meant to compliment the teachers, and he did it nicely. Suppose he had said something like this: "I have come here to-day to show you that I feel an interest in the cause of education. I propose we begin here to-day the steps of a needed advance. I want to have your calling a profession. To accomplish this no one must be allowed to teach, but those who have gone through an educational school. There they must learn the principles of teaching. Then they must go and watch well-managed schools and learn the art. In this way the people will get their money's worth; in this way you will soon be recognized as belonging to a profession. The teachers should do all they possibly can to improve themselves. I am sorry that so few of the great number in the state come to the conventions. Teachers, if you wish others to believe in you you must believe in yourselves."

Four Errors.

Those who have manipulated our schools have made four errors, and if these are not corrected the public will believe the schools

themselves to be in fault. The error of all errors is that a SYSTEM and a set of studies are the two pillars on which the temple of education rests. On the contrary we declare that the TEACHER IS THE SOUL OF THE SCHOOL.

In the country they hold to this error and in addition change the teachers as often as possible and get those who know as little of teaching as the law will allow. In the city they have enough permanency, but hold on to the errors as firmly as they do in the backwoods; here, however, they make the course of study the bottom of things. But the results are the same in both cases.

The out-come is as follows: four results that are really chronic. (1) The teachers are degraded. The utmost effort is needed to keep the teachers (that is all who have not native character enough to withstand the degradation) at work. They are mercenary and shun effort, refuse to make self improvement and despise their calling. (2) The children are burdened with learning things that do not benefit them, dislike school, and are not fitted for life. (3) Sham and not substance is becoming the test of the teacher's work; brilliancy and not thoughtfulness; percentages and not practical judgment. (4) Too much supervision. The supervising officer now demands certain results, and these the teacher demands in turn of the pupils. (Here we speak of our city schools.) Now the teacher knows that it is not best to have those results, but he has no option. "Bread and butter" he mutters and forces the blood out the post.

What is to be done? There is but one way out. Go back to common sense. Listen to Mr. —, who has a private school. He writes: "When I want a teacher I have hard work I assure you. I look over the field, I correspond with skillful teachers, if possible I go and see them teach. At all events, I take no one who has not TEACH in him from head to foot. That is the reason my school is popular." This is what we mean by common sense. Put the teacher first, let him select studies, and mark out programs. Let your superintendent do his level best to increase the teaching power of these teachers, do everything to elevate and nothing to degrade them.

Opposition to the Schools.

There are men who honestly believe that the support of schools at the public expense is far from being the good thing, which others declare it to be. These are not opposed to education, but they think that like any other good in this world it should be obtained by the efforts of those who want it. The clearest statement of the opposition party has been made by Richard Grant White, in the *New York Times* and in the *North American Review*. He has been thoroughly abused in return and this is about all that has resulted; for the American people implicitly believe in a scheme of public education.

To state the matter briefly.—Mr. White says that education and a well-ordered

society have no connection whatever; that a distribution of knowledge is not necessary; that to have a good government it is not necessary to have an educated people. He argues this at some length, but we do not think he has made out his case.

He next says that the schools have proved a failure. (1) They do not teach the studies they profess to teach, nor (2) inculcate the sound morals they ought. The first point he states thus: "The mass of the pupils of these public schools are unable to read intelligently, to spell correctly, to write legibly, or to do anything that reasonably well-educated children should do with ease." Here Mr. White has generalized on the report of Mr. Walton concerning Suffolk Co., Mass., in a most extraordinary manner. A careful reading of the report at the time it was made left no such impression on our minds. It will be admitted that the attempt to educate ten millions of children will show much crudeness and many failures; but that as a whole it has been a success must be admitted. Two facts are worth considering by Mr. White. (1) France and England have for many centuries followed his plan of believing that ignorance had no connection with vice and misery, but both are following the American plan after having examined the results. How is it that these countries should be deluded by official reports into an expenditure of millions when there have been plenty to present arguments after Mr. White's fashion? Mr. White further tells us they have had no public schools south of the Potomac and that crimes have not been committed so extensively as at the North, or rather that in Mass. and Conn., crimes, suicide and insanity abound, and so do public schools. At the South no public schools, and no crime, suicide and insanity. But strange to say the happy southern states are making every effort to establish public schools. An attempt has been made to have the United States give to them the proceeds of the public lands for their purpose. Strange they should be anxious to have more jails, more insane asylums, more gallows at the "Sunny South!" (2) The other fact is this: A city like Albany, for example, tries the plan of having schools, likes it; enlarges the scope of the schools, likes it still more; calls for more money, for better teachers, and for finer buildings and the deluded people hands it over without a murmur. This is remarkably the case at the west when the country is sparsely settled. In one case a village of 4,000 inhabitants had a building burned and the School Board met the same day and contracted for a new one to cost \$40,000, or four times the cost of the destroyed building. In another case the School Board of a town was made unpopular because it did not put up an expensive building. It is plain the people do not think the public schools a failure.

We do not care to answer why "our large towns swarm with idle vicious lads," why "our rural districts are infested with tramps," why "dishonesty in business has become common," why "crime and vice have increased." There is more diphtheria and scarlet fever also.

If Mr. White had turned his attention to the public schools and had brought his skillful pen to bear on the crudities of the system; if he had accepted the schools as a fact, as he must, and had attempted to improve them he would have accomplished a great deal of good. As it is, he had written a paper that has been laughed at for its strange mixture of fact and fancy, of logic and inconsistency.

THE SCHOOL-ROOM.

For the SCHOOL JOURNAL.

Occupation for Young Children in School.

By ANNA JOHNSON.

NO. V. CLAY EXERCISES.

Form.—If practicable, provide each child with a small piece of board containing wet clay. Where the class is too large, have a large tray or box containing the clay, and allow two or three children to work at one time, while the class look on, criticise the work, and when necessary different ones may be appointed to rectify mistakes; thus all may be kept interested.

As in previous lessons, begin with a talk about clay. What kind of a substance? Where obtained? Of what use? Speak of bricks; have one to show. If convenient, present other objects made of clay; speak of their manufacture, or what is better, let the children find out as much as possible for themselves, and relate at the next lesson.

Have the children first make a ball or sphere of clay. What kind of a surface has it? How many hemispheres can be made of it? Let them cut it with a knife. What part of the sphere is the hemisphere? What does hemisphere mean? How many halves in a sphere? in an apple? in anything? How many faces has it? What kind? What edges? Let them place the two halves together, then press it, and make an oblate-spheroid; then make it round again, and taper one end for an ovate-spheroid or egg shape. Return again to the sphere, and cut off each side for a cube. Review the shape as to faces, edges and corners. Roll it out for a cylinder, cut off sides for square prism; if possible, cut it in two for triangular prism. Then form pyramids, cones, etc.

Let them make the shapes of different kinds of fruit, using little sticks for stems; for strawberries they could make little indentures with pins for the seeds. Have a talk about each kind of fruit, and when practicable, present the natural.

Have a lesson on the bird's nest, and let them mould it in clay, and make the eggs and place in it. Let them give a list of the names of little birds. A great variety of objects may be made, as well as cakes, pies and bread, and a little lesson on each be given. The children will exercise their own ingenuity and devise many new forms.

The clay may also be used for geography lessons. The children may form mountains, valleys, capes, islands, peninsulas, straits, bays, springs, rivers, etc. They may get the idea of water flowing from all parts of the land, and at last finding its way to the ocean. They will surely get ideas instead of mere words. Children must have the object picture before they can grasp the idea.

Oral Lessons.

ON ANIMALS.

Collections of objects for use in the class-room are indispensable. They need cost nothing except a little effort in procuring, and care in preserving them. A properly managed class will gladly assist to supply them. The harder parts of small animals, such as the feet, bills, wings and feathers of birds; teeth, shells, bones, skins, fur, eggs, large insects, pieces of coral, are readily procurable. The occasional loan for a few hours of some small and familiar pet animal can be made to awaken an interest and to fix indelibly facts that are important.

1. Zoology being a science of classification, it is indispensably requisite to teach the distinction upon which the classification depends.

2. Only the simplest outline need be taught, with such facts and details as seem most naturally appropriate to illustrate the subject.

3. The process of classification being naturally objective, the animals being classified by their obvious peculiarities, the pupils should be led, by an exercise of the observing faculties, to discover the peculiarities himself.

4. Well known typical animals should be taken as the objective basis of the classification, such as man, monkey, bat, cat, rat, horse, deer, cow and whale;—eagle, parrot, canary, rooster, ostrich, snipe and duck; turtle, alligator, rattlesnake and frog; perch, cod, shark, etc.;—bee, butterfly, beetle, etc.;—spider and crab;—squid, snail and oyster;—starfish, jellyfish and corals.

5. The simplest names should be used, where possible, in preference to the more scientific, or, at least, as preparatory thereto; thus, it is better to use the term four hundred than quadrupeds; gnawers than rodentia; scratchers

than rascals; two-winged than diptera, etc. A few scientific terms, such as mollusk and bivalve, are in such common use that they may be readily explained and applied.

6. Associated facts not strictly scientific—such as the uses of animals, anecdotes concerning them, their peculiarities and habits which the pupils have themselves observed—will form an indispensable part of these exercises.

7. The pupils should be encouraged to acquire as many facts as possible by their own observation and reflection. For this purpose the collection of animals in any menagerie may be employed to subserve an important educational purpose, and the pupils of the schools be incited to the study of their habits and peculiarities.

8. The exercises should be conversational, the reviews frequent; the instruction should embrace exercises in classifying well-known animals from a miscellaneous list, giving the reasons in each case. Too much ground should not be attempted at first.

9. Some system of diagrams, roughly sketched in chalk, will be found of great service in assisting the pupils to remember the classification. The best and simplest is, probably, that used in the ordinary "genealogical tree." The diagram should be gradually developed as the lessons proceed, and not the whole of it given in the preliminary stages.

10. No teacher can give such classified "outline" without having first, by careful study acquired it. This can be readily accomplished from any of the school manuals on the rudiments of Natural History.

11. It is not expected that the classification should extend to species and variety, sometimes not even to genera. It is desirable that pupils should have some definite ideas as to the relations of the following terms used in zoology: kingdom, branch or type, class, order, family, genus, species, variety, individual. These can be best exhibited by a diagram, but should in no case be presented by formal definition. All but the last four should be mentioned in describing any given animal.—Teacher's Manual, N. Y. City.

For the SCHOOL JOURNAL.

A Word to Live Teachers.

By J. H. GILLITER.

The difference between the real, that is the professional teacher's work, and that of the occasional one is too great as to allow comparison. While the former develops the slumbering minds into self-active ones, he seems to create new strength, when once there was an apparent mental waste. He economizes time to such an extent as to do double and treble work, and do it more thoroughly than one of the latter class. The occasional teacher cares almost only for those of his pupils, who have a natural turn of mind for study, and neglects those seemingly less capable. His work is mechanical and uniform. He prefers when he has the choice to teach the higher branches, and avoids elementary ones, which are just those in which the true pedagogy finds his most interesting task. Hence, much harm is done by such persons who are simply using the teaching profession as a stepping stone to another, and who, instead of having their hearts in the work, only perform it as a mechanical drudgery, which they tolerate because they expect to be done with forever.

"Onward" should be the teacher's motto, as well for himself as for his pupils; and if it be not onward, it will backward; for if he be not a better teacher this term than he was the last, he is a poorer one; and if at the end of the day he sees no error in his own work, he is not competent to detect errors, or has not interest enough in his work to look for them.

A teacher has no right to carry his personal cares and sorrows into the school-room, and go through his work with an abstracted air or woeful countenance. He belongs in school-hours not to himself, but to his pupils; and should drop outside of the school-room all selfish thoughts. This is by no means impossible to do; one will never be able to control the minds of others until he brings his own into subjection to his will; and when this is completed, a person need never allow a thought foreign to the subject under consideration to enter his brain.

A teacher should be cosmopolitan; that is, he should have no pet subjects on which he spends more time than their importance demands or which, because he likes them himself, he teaches to the exclusion of those, which would tend more to the development of the intellectual powers of his pupils, or which would be of more practical utility to them in after life. He has no right to have a particular scholar or a particular class, which he wishes to advocate. His full interest belongs to the school in

general, not a few individuals, or to a class in particular.

If a teacher doesn't meet with that success to which he looked forward, he must not attribute it to the incorrigibility of his pupils, but search for the cause of failure in himself; in nine cases out of ten he will not have to go any further to find it.

Our pupils will be just what we make them. If we enter the school-room with a listless air, our pupils will be listless and inattentive; if we come in with a careless, languid manner, they will acquire a lagging gait and sleepy movement; if we are sullen, they will be sullen; if violent, they will become violent. But if we are cheerful, amiable and industrious, they will be just as quick in forming these habits, for children are imitative creatures.

For the SCHOOL JOURNAL.

Studies in Synonyms, No. 5.

By CHARLES DOD.

5. AMOR, HATE, DETEST, ABOMINATE, LOATHE.

These terms all denote a sentiment of aversion. They differ in degree, and in the manner in which the feeling is exhibited. To AMOR means to shrink from with horror; the exhibition of the feeling is confined to a shunning of the object that excites it, or to the pain that accompanies its enforced contemplation. HATE is not content with simply avoiding the object that occasions it; it desires its destruction. It arises, not from the nature of the object hated, but from the disposition of the person who hates; for it is possible for a good man to be hated by the vicious. To DETEST is to call upon others to bear witness to our hatred. Hatred may be a silent feeling; detestation is always expressed. What we begin by hating, we may end by detesting. We hate the person who has injured us, unless we are of a forgiving spirit; we detest the person who inflicts wanton injuries upon the helpless. Hate is always a bad passion, when its object is a person; when its object is a thing, the moral character of the feeling depends upon the moral character of the thing hated. To detest always retains a good meaning; the feeling arises whenever we contemplate anything that contradicts our moral principles. We detest a traitor, a liar, a perjurer, etc. Abhorrence differs from detestation in having reference to what is repugnant to our moral feelings rather than to what is in violation of our moral principles. We ABOMINATE that which does violence to our religious sentiments, heresy, infidelity, profanity, etc., are abominable. To LOATHE expresses the disgust which the sight of offensive objects produces. Owing to the prevalent tendency to exaggeration of speech, these words are often used in connection with objects to which they are not strictly applicable; as when a young lady declares that she detests or abominates steel-forks! We cannot detest or abominate that in which no immorality is involved.

QUESTIONS.

What do these terms all denote? In what respects do they differ? What does abhor mean? How is the feeling exhibited? How is hatred exhibited? Is it possible to hate goodness? Can goodness be detested? Which is communicative feeling—hatred or detestation? Which is the selfish feeling? Is it ever right to hate a person? When is it right to hate a thing? When does the feeling of detestation arise? Do we hate or detest a traitor? How does abhor differ from detest? What do we abominate? What do we loathe? How should one express himself instead of saying he detests steel-forks? Can we detest or abominate or abhor that which is innocent? May we hate or loathe that which is in itself harmless? Does hatred arise from the nature of the thing hated or from the nature of the person who hates?

EXERCISE.

(Write the sentences on the black-board and have the pupils supply the blanks, giving a reason, in each instance, for their choice of a word.)

1. "The lie that flatters I—the most."—COWPER.
2. "Spleen to mankind his envious heart possessed, And much he—all, but most the best."—POPE.
3. "Who dares think one thing, and another tell, My heart—him as the gates of hell."—POPE.
4. The conscientious man will—every breach of the Divine Law.
5. The prayer of him who asks blessings for himself, while in his heart he has "aught against his brother," is an—in the sight of Him who taught us to say "Our Father."

6. "No costly lords the sumptuous banquet deal, To make him—his vegetable meal."—GOLDSMITH.
7. The true gentleman instinctively—what is base.
8. "Since Cleopatra died, I have lived in such dishonor that the gods—my business."—SHAKESPEARE.
9. We are commanded not to—any man; there are, however, many qualities which we are justified in not only—but—
10. Cataline, although a man of great talents, had committed so many—crimes that he had become an object of—to every decent citizen of Rome.

KEY.

1. Abhor, (because the meaning is, "repugnant to my moral feelings.")
2. Hate, (because the sentiment arises from the disposition of the agent, and not from the nature of the object.)
3. Detests, (because the meaning is, "disapproves of his conduct as opposed to my moral principles.")
4. Abominate, (because the meaning is, "regards it as a violation of religious principle.")
5. Abomination, (because the meaning is that such a prayer is regarded as inconsistent with religious principles.)
6. Loathe, (because the meaning is, "make him regard with disgust.")
7. Abhors, (because the meaning is, "shrinks from with horror, as disagreeable to his moral feelings." Detests would imply that his aversion was due to principle. Loathe would imply physical or mental disgust.)
8. Detest, (because the meaning is, "express their disapprobation of." Abhor or hate would imply a silent disapprobation.)
9. Hate, hating, detesting. Why?
10. Detestable, * (because "worthy of public denunciation." Loathing, (because the sight of him created a feeling of disgust.)

Questions for Self-Examination.

If your work is what it should be you will be able to answer the first thirteen questions in the affirmative.

1. Do you seat your pupils by grades and conduct recitations without calling them to the front?
 2. Are those pupils who are together, in together all other branches, or nearly so?
 3. Do your primary classes have a recitation at the close of each hour?
 4. Do all your pupils sit in an erect position while studying?
 5. Do you give at least one-half of the time in grammar and language classes to the correction of errors in spoken or written language?
 6. Do you ascertain by questions and explanations, or otherwise, that all reading classes grasp the idea of the selection before it is read by them in class?
 7. Do those pupils too young to use a text-book in those branches, receive oral instruction in arithmetic, language and geography, in which written work by the pupil forms a prominent feature?
 8. Do the spelling classes show that they understand the words spelled by giving a sentence in which they both are properly used?
 9. Does written work upon slates or board predominate in the primary arithmetic classes?
 10. Do you teach all pupils the geography of the district, town, county and state in which they live?
 11. Do the classes in the first, second and third readers print or write a portion (or all) of the lessons upon slates, bring them to recitation and read what they have printed or written aloud, before beginning to read from the text-book?
 12. Do you correct errors in their capitalizing, etc?
 13. Do you have a study programme, in addition to your recitation programme, and tell the classes not reciting at the beginning of each recitation what lessons to study?
- You should be able to give a truthful negative answer to the following questions. If you cannot, think wherein you can improve:
1. Do any pupils recite twice in succession, excepting in penmanship?
 2. Do you answer questions from pupils while a class is reciting?
 3. Does any geography class ever pass from the study of a state or county without having drawn a map of it?
 4. Do you ever allow "speaking," "leaving seats," or "drinking between intermission"?

*NOTE.—The adjectives detestable and abominable are not restricted, like the verbs, to objects of moral disapproval.

5. Do your pupils ever become sleepy and restless before recess or intermission, on account of deficient ventilation?
6. Do you allow any day to pass without reading a few pages from some book relating to your work on science, history, biography?
7. Does any pupil in any reading class ever pass a sentence, the words in which he cannot call readily and correctly at sight?
8. Does the class in history mention any towns, cities or countries, the location of which you do not require them to learn and recite?
9. Do you allow any profanity or vulgarity on the playground?
10. Do you ever assist a pupil at his seat outside of recitation to work examples in arithmetic?
11. Do you have any mathematical classes in the afternoon?
12. Do you correct or reprove pupils with a cross or fretful tone of voice?
13. Do your pupils stare at visitors to the neglect of their books?
14. Does a week ever pass in which you do not instruct your pupils in the forms of letters of various kinds, as business, friendship, etc., or the arrangement of the subject-matter?—H. S. BAKER in *Practical Teacher*.

A New Study in the Plymouth Schools.

The School Committee of Plymouth, Mass., in advocating the introduction of a new study, which they designate as "The Knowledge of Practical Subjects, and of the Events of the Day," into high schools, makes the following suggestions, which may be read with profit by school committees and teachers everywhere.

This should include information upon topics of general interest, foreign and domestic movements, state and national affairs, progress in arts and sciences and in reforms, constitutional relations, commerce, banking, mechanical inventions and manufactures, exports and imports, and all those matters which every well educated man or woman ought in some degree to be familiar with and able to converse upon sensibly; but which so few of the graduates of our high schools generally (throughout the country, probably) know anything about. This course is recommended not merely for the practical value of the knowledge thus acquired, but as giving to our young men and women an enlarged interest in real things, outside of themselves and their own private homes or business; giving them, also, that most valuable habit of mind which during all their after lives will induce them to read and think and feel about what is occupying earnest men in the world of thought and action.

Under a regular method, this branch of study, which we now propose, can be introduced and pursued without seriously interfering with the general system already adopted. But we assume that, even if part of the time now given in our schools to extra attainments in the higher branches of modern languages or of English literature must be sacrificed (as some might be inclined to say) to the acquirement of this general information, and this acquaintance with practical things, and with the life of today, it will be a sacrifice which will tend to make our public schools more really what they ought to become, viz: agencies for educating not a limited number very highly in special directions, but for educating the mass of the people into intelligent and competent citizens, where the common school education shall run parallel with common sense.

The importance of making provision for this branch of instruction is more and more felt by the community at large; and the almost total lack of any instruction in this direction is, we believe, one of the most decided causes of the dissatisfaction with our public schools which, from time to time, is felt and expressed; it is one reason among others, also, why so many of the pupils, especially the boys, drop out during the last two years of their school course. The interest which they would undoubtedly feel in these topics that are related to real life and the activities, business, and movements of the present time would, we are quite sure, retain in our high schools many more scholars, and thus secure to them what they certainly ought to have—a more complete and thorough education in the various valuable branches which are usually taught during those closing two years of the course.

None are so fond of secrets as those who do not mean to keep them; such persons covet secrets, as a spendthrift covets money, for the purpose of circulation.

The Primary Class.

NUMBERS

Counting.—First let the pupils be taught to count as far as ten, by using the numeral frame, pencils, their fingers, marks on the blackboard and other objects.

Figures.—Teach the pupils to count out groups of objects to represent each number, and teach the figure that represents the group. Let the pupils count one ball, one pencil, one finger, one mark, then learn figure 1. Then count in groups two balls, two fingers, two pencils, two marks, etc., and learn figure 2. Now lead the pupils to see that two is equal to one and one, or two ones; that three is equal to one and two, or three ones, or two and one; that four is equal to four ones, or three and one, two and two, or two twos. Proceed in a similar manner to teach each number and figure as far as nine.

To give the pupils additional exercises for learning how many objects each figure represents, let them count as many balls or other objects, or hold up as many fingers as the given figure represents. They may be allowed, also, to clap their hands three times for figure 3, four times for figure 4, and so on, as another mode of showing that they understand the value of the numbers.

Figures in Groups.—Figures should be taught as symbols of numbers counted, and in groups corresponding to the forms by which the numbers are represented. The first group should contain the figures from 0 to 9; the second group from 10 to 19; the third group, 20 to 29, and so on to 100. Counting objects should precede each group, and extend beyond the highest number of the group. No succeeding group should be commenced until the preceding one has been thoroughly learned.

Adding.—The pupils may be taught to add balls on the numeral frame by ones; then to add figure 1s in a column on the blackboard; then to add a column of 1s on their slates. Subsequently teach them to add balls by twos; then to add a column of 2s on the blackboard; then on their slates. Proceed in the same manner with threes. Afterward the pupils may be taught to add 1s and 2s in the same column; then 1s, 2s and 3s in the same column. A variety of exercises should be introduced by which the pupils will be required to add one to each number from one to twenty. As far as practicable objects should be used by the pupils during the first steps of these lessons.

Subtracting.—By means of the numeral frame teach the pupils to count backward from ten, thus: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. Let them also learn, by the use of the numeral frame and of other objects, to take one from each number from one to ten, and to tell how many remain.

Reading and Writing Figures.—Care should be taken in the reading of Arabic figures from the blackboard, as far as 100, and the writing them on slates, as far as 20, that the instruction be given in appropriate steps, that the numbers be arranged in such groups as will aid the pupils in learning them; also that each group be well learned before a new one is presented. Mere rote exercises should not be allowed, either with or without the numeral frame.—*N. Y. City Manual.*

I do not believe in a perfectly subdued primary school, at least my children do not seem to learn half so much as when things are bright, lively and vivacious. I am always delighted when they can do disorderly school room acts in an orderly, quiet manner. At most times, I have found by experience that by controlling myself I can control my pupils. Some mornings, as the children come in the school room, I can tell what the day will bring forth, unless they are checked and subdued. They are noisy, restless and ruder than usual.

I have often found by going through the opening exercises in a calm, quiet manner, hardly speaking above a whisper, that before I was ready to commence work every one was ready to attend to lessons.

I always require that each one shall sit up straight, elbows against the back of the seat and hands clasped while the pencils and sponges are being passed, as I think those quiet moments before the commencing of work have a quieting influence on the rest of the day. Little drills in the moving of feet have often aided me in keeping order; for instance, some day, when they are particularly noisy with their feet I have them raise one foot and see how quietly they can set it down; the same with the other; now with both; then move them front, now back, to the right, to the left, and in this way teach them how to move them quietly, instead of forbidding them to lift their feet from the floor, as some teachers I know do,

Especially in teaching beginners to read, do we not need all the ways we can know of, hear of, think of and dream of?

If you watch little children at play you will see how soon they tire of a new plaything—they are forever wanting some world to conquer; so in their lessons, if the same humdrum plans are gone over day by day the children lose interest in them.

A little variety is enough, if it is too startling it loses its effect; children, like older people, are best pleased when they can be led on, from what they know, to what they do not know, it seeming still as if they knew it all the time.

I always have a preparatory lesson before the lesson in reading. We talk about the new words. I have them say something with each of the new words in. Read the place in the lesson containing the word, spell it, tell me the letters backward (to have them closely observe how the word looks) Talk about the picture. Tell them a short story about some word that they know very little of, and then as I always print the new words on the blackboard, and both print and write for the more advanced class, I require each one to be able to tell the words as I point to them, skipping around.

To keep their attention I appeal to their imagination; and you can not think how we all enjoy the things which we imagine. Did you ever hear the story of the father who was out walking with his little boy who became very tired and insisted that his father should carry him. Instead of doing it the father handed him his cane and said "Here my son, ride this home." The little boy took it and was soon prancing along enjoying his ride and forgetting all about being tired.

So in my classes; some days we take rides and all those who pay good attention and read well, get to go. Other times we have parties and all those who stand up straight, like little ladies and gentlemen, and have a good lesson are invited; or on the same conditions we go to the woods. Of course each "pretend," as we call it, must correspond to the lesson, or the pupils are not impressed with the words.

The lesson about cab, and, nag, ham, man, would do for the ride. "We will pretend that all those who have a good lesson can go with me to take a ride in the cab." Then point to the cab. "Now what must we have besides a cab??" Horses? Yes—but as we are little folks we shall want little horses—nags? Yes, that is right, here is the word nag. Now we have a nag and cab. Do you see this little word and? Be sure to look at it well, for I am afraid some of you will forget it. Shut your eyes and see whether you can think how it looks. Now a cab won't hold very many, so I am afraid I can't take but the very best ones, so you will all have to try to be the best."

This may all seem very foolish, but we enjoy it and by their little faces I can tell how disappointed they are when they do not get to go to the "pretend." Other times I have them go through the actions indicated by the words. If it is run I have some one run; if walk, some one walk across the room; if wind, I let some one get out of doors and see whether he can feel the wind, or some one go to the window and tell me what the wind is doing.—*Remarks at Teachers' Assoc. in Ohio.*

THE ENGLISH SKYLARK.—Another attempt is about to be made to introduce the English skylark to our fields and skies. Last summer Mr. Isaac W. England imported two hundred birds, a considerable number of which have survived the winter and are now in excellent condition. They will soon be set free, probably in the neighborhood of Ridgewood, N. J.; and it is to be hoped that the people of that region will make it hazardous for small bird hunters to be seen thereabout during the next four or five years.

THE NUMBER SEVEN.—The number seven was not only frequently used as a mystical number in the Bible, but the first use of the number in the Old Testament is the completion of the creation is seven days and the appointment of the seventh as a day of rest.

An interval of seven days elapsed between the notice to enter the ark and the coming of the flood; the beasts entered by sevens; the dove was sent out the second time seven days after her first mission, and the ark rested on the mountains of Ararat on the seventh month. Then we have Pharaoh's dreams of the seven lean kine and the seven fat kine; the seven empty ears, and the seven good ears. There are many other indications,

Things to Tell the Scholars.

(PREPARED FOR THE N. Y. SCHOOL JOURNAL.)

MOUNT BAKER, Washington Territory, has shown slight symptoms of volcanic activity for several years. An unmistakable eruption is now in progress, causing some little consternation among the scattered settlers of that region. The display of fire and smoke is said to be magnificent as seen from Upper Sumas, about fifty miles distant.

A REMARKABLE PASSAGE.—One of the quickest passages recorded between England and the United States has just been accomplished by the White Star liner *Britannic*. This steamer, which is one of the finest vessels on the Atlantic service, sailed from Queenstown on Friday week at 4:30 P.M., and arrived at New York on the following Friday morning at 2:30 A.M., having completed the passage in six days and ten hours.

It is well known that certain fowls fill their digestive apparatus with gravel and pebbles, which act as millstones in grinding up their food. Recent investigation shows that other animals are addicted to similar habits on a larger scale. Seals swallow stones weighing from one to two and sometimes even three pounds each, while one investigator found, not long since, ten pounds of these boulders in the stomach of a sea lion.

THE BLUE SKY.—M. Chappuis thinks that the blue of the sky may be due to ozone present in the upper regions of the air. He argues that the electrical discharges constantly taking place will produce ozone; and the recent researches of himself and M. Hautefeuille have shown that ozone, at any rate when near its condensation point, is of a blue tint. He has examined the absorption-spectrum of ozone and finds nine dark bands in it, three at least of which correspond with known bands in the telluric spectrum.

SINCE the assassination of the Czar, extraordinary precautionary measures have been taken to secure the safety of Queen Victoria while traveling by railway. During a recent journey to London a train of empty carriages was run about a quarter of an hour in advance of the Queen's special train, which it piloted throughout the trip from Windsor to Paddington, while the entire distance between the Windsor terminus and the metropolis was guarded by plate-layers stationed at regular intervals along the route and well within sight of each other.

DANIEL WEBSTER once told a good story in a speech, and was asked where he got it.

"I had it laid up in my head for fourteen years, and never had an opportunity to use it until to-day," said he.

My little friend wants to know what good it will do to learn the "rule of three," or to commit to memory a verse of the Bible. The answer is this: "Some time you will need that very thing. Perhaps it may be twenty years before you can make use of it in just the right place; but it will be just in place some time. Then, if you don't have it you will be like the hunter who had no ball in his rifle when the bear met him."

"Twenty-five years ago my teacher made me study surveying," said a man who had lost his property, "and now I am glad of it. It is just in place. I can get a good situation at a high salary." The Bible is better than that. It will be in place as long as we live.

A BURIED CITY IN ALGIERS.—French newspapers report the discovery in Algiers, by the archaeologist M. Tarry, of a city which had been entombed in the sand. M. Tarry's attention had been awakened by the mound-like appearance of the sandy soil, and some digging brought to light the minarets and upper portion of a mosque. Further excavations laid bare a terrace, a tower, and about a dozen houses, all in excellent preservation. He reported his discovery to the Government of Algiers, which has undertaken to have the site thoroughly explored. The place is in the southern part of the province, not far from the town of Ouargla, and exposed to the full blast of the sandy winds from the desert. Probably a succession of siroccos bearing clouds of sand completely filled up the streets and houses, making the town uninhabitable, and so drove out the population. At present there is no ground for conjecture as to the date of the occurrence.

SABINO BERTHELOR.—This eminent naturalist died, Nov. 22, 1880, at Santa Cruz de Tenerife, at the advanced age of 86 years. He retained in his old age the enjoyment of his intellectual faculties, and only a few weeks before his decease had contributed to the *Revista de Canarias*, an

extensive, learned, and interesting paper upon the "Trees and Woods of the Canaries." Many of his researches related to the advancement of the Fortunate Isles, where he lived for about sixty years. In the early part of his life he was the director of the celebrated Botanical Garden of Orotava. In 1828, in conjunction with the celebrated naturalist, Phillip Barker Webb, and others, he was engaged in the production of that splendid series of works, the "Natural History of the Canary Islands." He was Consul of France, Member of the Legion of Honor, an officer of the French Academy, Member of the Society of Natural Sciences and Geology, and of all the principal scientific societies of the Canaries and of Europe. He was a clear, accurate and able writer. His life was a most useful one. In his adopted home, Tenerife, he was greatly beloved. His memory will long be cherished as a benefactor.—*Scientific American*.

THE ST. GOTHARD TUNNEL DISEASE.—Among the workmen engaged upon the St. Gothard tunnel there prevailed last year and still prevails a serious epidemic. The cause was mysterious. 117 deaths occurred, but *post mortem* examinations were refused. One of the men died in the hospital at Turin, and was subjected to careful examination after death. The true nature of the disease was seen to be worms. There is a little worm hitherto unknown in Europe, but common in hot countries, such as India, the Antilles, and Brazil. The largest of these worms measures about half an inch in length. The egg is hatched in water. It is in drinking this water, containing the nascent worm, that the man introduces this dangerous visitor into his body. Owing to the want of cleanliness on the part of the St. Gothard workmen, the epidemic has spread so rapidly. After having found the cause medicine was prescribed and as many as 1,250 worms have been expelled.

WHERE THE COLD WAVES COME FROM.—The question is frequently asked, "Where do the cold waves come from?" Manitoba is generally credited with the cold waves that sweep down from the north in this longitude. We are assured, however, that this is a mistake. It is said that meteorological observations have now become so extended that evidence is rapidly accumulating to enable us to determine positively the source of the cold aerial waves which sweep across this country during the winter season. The indications are that we owe them to the area of high barometer in Northeastern Siberia, where the pressure sometimes exceeds 31.50 inches, and the temperature falls as low as 76° below zero. The pole of greatest cold is in the neighborhood of Yokutsk, on the Lena, where the average thermometric reading in January is 41° below zero, and where the severest cold exceeds by ten degrees that experienced by explorers in high arctic regions. This is also the region of the highest barometric pressure known in winter; and from it, doubtless, proceed the waves of intense cold which play so large a part in our winter experiences. Having found out where the cold waves come from, it will be in order for science to go to work and seek and see if there are no means by which they can be diverted from their course and sent to cool some more heated portions of the globe.

GOOD WORK BY BOYS.—The good example set in Maine last year and year before, of offering prizes for farm work by boys, has been wisely followed in Vermont. The prizes won last year have been awarded. The first prize of \$25 and a scholarship in the Vermont University and State Agricultural College (worth \$50 a year for four years) for corn, was taken by Frank J. Hubbard, of Whiting, and the first prize, of the same amount, for potatoes, by Lewis S. Breed, of Goshen. The second prize, of \$20, for corn, was taken by Edgar J. Tutill, of Newfane, and for potatoes by Frank J. Hubbard. The third prize, of \$15, for corn, was taken by J. T. Goodenow, of Montpelier, and for potatoes by Burt Royce, of Williams-town. The fourth and fifth prizes for corn were taken by Edward N. Casey, of Whiting, and H. E. Thayer, of Guilford; and for potatoes by Eugene Plastringe, of Northfield, and George R. Powers, of Lunenburg. No less than 305 boys competed from 146 different towns. The best yield reached was at the rate of 192 bushels of dry shelled corn to the acre and 422 bushels of potatoes to the acre. As the average production of Vermont farms is estimated to be 39 bushels of corn and 140 of potatoes to the acre, it will be seen that the results secured by the boys are quite encouraging.

THE JEANNETTE SEARCH EXPEDITION.—Lieut. R. M. Berry has been ordered to command the steamer Mary

and Helen on the proposed Arctic expedition in search of the Jeannette. He has been furnished with a list of the naval officers who have volunteered for this service, and he will have a choice in the selection of the officers and crew. Lieut. Berry commanded the Tigress in search of the missing members of the Polaris crew. He is a native of Kentucky, and is thirty-five years old. Among the appliances that will be added to the ship will be an observatory balloon, from which it is expected a view of thirty miles can be had if it reaches the altitude of balloons sent up in this climate. Bombs will be used in the progress of the search to give sign of their presence in the Arctic. The vessel is not to winter in the Arctic except to promote the search for which she is sent out, nor then except in a secure harbor; nor is she to remain more than one winter away from home.

THERE was a pure and sturdy manliness in Lord Derby's speech on self-culture. He tears up one cherished opinion of the masses when he declares that cleverness is not the first qualification for a successful career, but he does not lack for instances. He mentions particularly two men who rose to fill some of the highest offices in England and who filled them well too, and who yet were at college constantly ridiculed for slowness of comprehension, and he goes on to speak of those first-class men at the universities who are now struggling hard for bread and a roof. "Right and wrong, honor, duty, and country, benevolence toward men and responsibility toward the unseen power by which human actions are guided and controlled—these are not idle phrases. They are realities which correspond with the deepest wants and feelings of our nature; and no man will feel himself utterly cast down who can say in his heart what the wisest and best of the human race have proclaimed in the whole tenor of their lives. Whether I am happy or unhappy is not my chief affair; what most and first concerns me is to find my work in life, to recognize it, and to do it."

THE first printed book is to be sold at auction. It is thought that the book is worth \$10,000. The last copy sold, being printed on vellum, was purchased by the Earl of Ashburnham, in London, for \$17,000, the highest price ever paid for a book. The Lenox Library has the only other copy of this rare work in this country. The one now to be sold comes from the library of the late George Brinley of Hartford. This old volume is most noteworthy, because it illustrates the wonderful excellence of the art of printing in its very first specimen. It is agreed that there is but one book in existence which is the superior of this Gutenberg Bible as a specimen of printing, and that is the "Psalmorain Condix," also printed at Mentz in 1457, which is described by printers as "the most magnificently printed book known." This Brinley copy was purchased in 1873 in London. It is printed in Gothic type, with hundreds of illuminated capital letters drawn and painted by hand. Many of the letters are heightened with gold. There are two volumes, and they remain in their original binding of thick oak boards, covered with stamped calf, and ornamented with brass corners and centre pieces with bosses. The pages measure 15½ by 11½ inches, and many of the leaves are uncut. The first volume contains 324 leaves, while the second volume has 312 leaves.

THE LARGEST FARM.—The wheat ranch of Dr. H. J. Glenn, about twenty miles above the town of Colusa, Colusa county, California, is perhaps the largest and best known in the State. The Chicago Tribune says that on being asked recently why he raised nothing but wheat, Dr. Glenn replied: "It is the only crop that will bear transportation; it is the only crop not perishable. I must not raise on my land what runs me, but what is profitable." Dr. Glenn's ranch comprises about 60,000 acres of land, and the number of acres in wheat each year ranges between 40,000 and 50,000. Reckoning an average of from 20 to 25 bushels to the acre, the aggregate crop each year amounts to something more than 1,000,000 bushels. This enormous amount of grain requires vast appliances for planting and bringing it to market; and the capital invested in machinery alone sums up a considerable fortune. During the harvest time there are employed on the entire ranch some 500 men. Dr. Glenn is general-in-chief of his force, and the ranch is divided, for convenience of operations, into nine smaller ranches, each with dwelling house, barns, blacksmith shop, and other necessary buildings. In charge of these are seven foremen, under whom are sixteen blacksmiths, fourteen carpenters, six engineers, six machinists, five commissaries, and numerous cooks and servants. The common workmen are divided into gangs,

and detailed where they are needed. There are 130 gang plows; 60 herders, to which belong 1180 wagons; 6 cleaners, 100 harrows, 18 seeders, 6 thrashers, 6 engines. Besides, there are many smaller instruments and vehicles, which cannot be classified. Co-operating with their human brethren in the great labor are 1,000 work horses and mules, with a kinship of 1,000 brood mares and younger stock which has not yet achieved the dignity of labor. There are 32 dwelling houses, 27 barns, 14 blacksmith shops, and other structures sufficient to swell the aggregate to 100. The machinery could not be replaced for \$125,000; the work horses and mules are worth \$110,000; the brood mares and young stock \$75,000, and the buildings on the place \$100,000.—*Scientific American*.

THE seven wonders of the world are: The Pyramids, the Colossus of Rhodes, Diana's Temple at Ephesus, the Pharos of Alexandria, the Hanging Gardens at Babylon, the Statue of the Olympian Jove, and the Mausoleum by Artemisia at Halicarnassus. The Pyramids are great piles constructed of blocks of red or syenitic granite, and of a hard calcareous stone. These blocks were of extraordinary dimensions, and their transportation to the site of the pyramids and their adjustment in their places, indicate a surprising degree of mechanical skill. The Great Pyramid covers an area of between twelve and thirteen acres. The masonry consisted originally of 89,028,000 cubic feet, and still amounts to about 82,111,000 feet. The present vertical height is 450 feet, against 479 feet originally, and the present length of the sides is 746 feet, against 764 feet originally. The total weight of the stone is estimated at 6,316,000,000 tons. The city of Rhodes was besieged by Demetrius Poliorcetes, King of Macedon, but aided by Ptolemy Soter, King of Egypt, the enemy were repulsed. To express their gratitude to their allies, and to their tutelary deity, they erected a brazen statue to Apollo. It was 105 feet high, and hollow, with a winding staircase that ascended to the head. After standing fifty-six years, it was overthrown by an earthquake, 224 years before Christ, and lay nine centuries on the ground, and then was sold to a Jew by the Saracens, who had captured Rhodes, about the middle of the seventh century. It is said to have required 900 camels to remove the metal, and from this statement it has been calculated its weight was 720,000 pounds. The Temple of Diana at Ephesus was built at the common charge of all the Asiatic States. The chief architect was Chersiphon, and Pliny says that 320 years were employed in completing the temple, whose riches were immense. It was 425 feet long, 225 broad, and was supported by 127 columns of Parian marble, (sixty ft. high, each weighing 150 tons), furnished by as many kings. It was set on fire on the night of Alexander's birth by an obscure person named Erostratus, who confessed on the rack that the sole motive which prompted him was the desire to transmit his name to future ages. The temple was again built, and once more burned by the Goths in their naval invasion A. D., 256. The Pharos of Alexandria, and the Hanging Gardens were considered as very remarkable objects by the ancients. The colossal statue of Jupiter in the temple of Olympia, at Elis, was by Phidias. It was in gold and ivory, and sat enthroned in the temple for 800 years, and was finally destroyed by fire about A. D., 475. From the best information it is believed that the Mausoleum at Halicarnassus was a rectangular building surrounded by an Ionic portico of thirty-six columns, and surmounted by a pyramid, rising in twenty-four steps, upon the summit of which was a colossal marble quadriga with a statue of Mausolus. This magnificent structure was erected by Artemisia, who was the sister, wife, and successor of Mausolus.

PUBLIC events of moment, when deeply and fully considered, are the fertile womb of political maxims, which ought to contain the very soul of the moral of history; and then they are imperishable and indestructible, worthy of being resorted to as a tower of strength in the storm, and spreading their influence over the tide of time as a beacon in the night.—*Colton*.

THE pupils of the Indianapolis public schools are said to be overworked, and efforts are being made to shorten the hours and to cut down the course of study. A similar movement is on foot in Kansas City, Missouri. The State law fixes the school-day at six hours, and the School Superintendent of that place protests that it is too fatiguing for children of from five to ten years of age, especially when consideration is taken of the fact that pupils are frequently detained after school-hours, as a punishment, or to learn lessons not properly prepared.

EDUCATIONAL NOTES

ELSEWHERE.

BUFFALO.—The commissioners of Erie county decide to give St. Joseph's Orphan asylum and the Catholic Protector a share of the United States Deposit and Free School funds to the amount of \$1,014.25.

Hon. Charles E. Forbes, late Judge of the Massachusetts Supreme Court, left by will \$220,000 to the town of Northampton to found a public library. Of this \$50,000 is to go for a building, \$50,000 for a book fund, and \$20,000 for a general endowment. No minister of any denomination is to be concerned in the management of the library.

Mr. Theodore Thomas, in an article in *Scribner's* makes a much-needed protest against the careless way in which music is taught and children's voices abused in our common schools. If we are ever to become a musical people the foundation must be laid in a correct and simple method of training the voice and teaching the elements of music to school children.

Oriskany Co.—This county has in Com. A. S. Miller of Dist. No. 2, an earnest, faithful worker in the cause of education. The town committees appointed by him to hold public meetings in the several school districts to arouse public interest in education, are at work. A live Commissioner will have wide-awake teachers. The work will go on, for "Onward" is the watch-word.

The "Wharton School of Finance and Economy," which Mr. Wharton proposes to found, will be an adjunct to the University of Pennsylvania. The trustees of the Institution have approved Mr. Wharton's project, and accepted his \$100,000 in six per cent. bonds, with which to "establish means for imparting a liberal education in all matters concerning finance and economy."

The latest report of the Minister of Education shows a steady increase of public instruction throughout the Japanese empire. The school attendance is now 85,000,000; the males, however, unduly preponderating. There is a good deal to do yet in the proper payments of teachers in Japan. School teachers' wages in that country are rather infinitesimal, something less than \$25 a year sufficing for the average schoolmaster.

The metric system of weights and measures is advancing in the United States. It was legalized here in 1866, and has now been made obligatory by the Marine Hospital service and the United States coast survey. The boards of education of several States have introduced it in the public schools, while a knowledge of it is required for admission to most of our colleges. The multiplicity of measures in continental Europe—an outgrowth of the feudal system—was long a barrier to commercial intercourse. Until recently there were more than one hundred measures there bearing the name of foot, no two of which were alike.

The Metropolitan Museum of Art Technical School established in this city in December last, and located at the corner of First Avenue and Sixty-eighth Street, is doing a good work. One is that known as the class in carriage drafting and construction, under the auspices of the Carriage Builders' National Association, which, at its last convention, held in Chicago in October last, raised a fund of over \$8,000, for promoting technical education in connection with that trade. A series of lectures on practical subjects was delivered before the class. The last by Mr. F. B. Patterson, of New York, on "The Ancestry of the Modern Pleasure Carriage."

The director of the South Kensington Museum, London, has written a long letter to Mr. A. T. Goshorn about the projected art museum in Cincinnati. He urges the raising of a million dollars, to begin with the purchase of whole collections rather than of isolated specimens; great care and constant consultation with recognized authorities in all expenditures of money; the securing of complete sets of the South Kensington, Dutch, and Russian electrotype reproductions of selected art objects, and a wise delay in attempting anything imposing and costly in the architectural line. "From what I have endeavored to learn," he says, "from the long experience I have had, I would first give the public—all classes of visitors, rich and poor, one with another—an early opportunity of examining collections of art objects, housed as cheaply as possible consistent with security, and the money will hereafter be forthcoming for facing the building and producing an exterior elevation more suitable to the treasures which will have been collected."

Wisconsin.—In the annual report of Supt. Whitford we find an unusual amount of interesting matter. Of the 229,576 children between seven and fifteen years 183,912 attended school—leaving 45,664 not in school. This is indeed a bad state of things! The average monthly pay of male teachers was \$37.14, of females \$24.91. And there were granted 7,891 third grade certificates, 824 second grade, 258 first grade; 169 graduates of the normal schools are teaching, 64 teachers' institutes were held. No statement is made of the number of teachers employed without previous experience. It is probably large. State certificates were granted for life to four during the year. We see that the State superintendent delegated three persons to attend to this important work. That is certainly better than the usual plan of examining them himself; but it would seem that the normal schools—the educational schools—should be the ones to judge of the fitness of a person to teach. If the principals and faculties of those normal schools are good for anything they are good for just that thing; and we recommend to Supt. Whitford that when any person apply to him hereafter for leave to teach, to refer them to the educational schools. There are 91 free high schools; there is no serious opposition to them and the superintendent declares their influence most salutary.

The superintendent says the school district system has defects. As the State only gives \$34 on an average to each, they are not enough interested to have good schools; the penurious and covetous constantly deny provision for good buildings and pay for good teachers. He urges a State tax of two mills on the dollar. Says better wages should be paid to experienced teachers. That a county superintendent cannot manage but about seventy-five schools; and that these men should be graduates of normal schools, colleges or have a State certificate or have had successful experience in supervising schools.

Turning to the reports of the normal school principals we find the Platteville school has graduated 172; that "practice teaching has been made a prominent feature," but does not give much definite information. In fact, the report deals with generalities and is quite unsatisfactory. The Whitewater Normal School is more specific. Each pupil practices teaching on an average over nine weeks. The Oshkosh Normal School report speaks of "student teaching"! If this means "practicing the art to learn it" then we think the term "student teaching" is indeed a mischosen term. We have heard the term "apprentice preaching" given to the labors of theological students, but it was in derision. Nevertheless, Mr. Albee makes suggestions worthy of his place.

The questions submitted for the examination of teachers for State certificates are given. Just why, it would not be easy to say. The time will come when the question farce will be played out. How much nobler if a syllabus of subjects, say two thousand in number, were given and the applicants required to write on a given number of them! We should not like to cite the ten questions proposed under "Theory of Teaching." Wisconsin is doing an admirable educational work. The teachers' institutes are ably co-operating to elevate the standard of teaching. The teachers are largely sharing in the effort to work earnestly, conscientiously and judiciously.

Patterson, N. J.—Supt. DeGraff reports that of the 13,446 children 10,313 have attended school. Average attendance 4,816. Total expenditures for the year \$82,000. Cost per pupil \$17.00. He says: At the beginning of the school year the pupils who now constitute the Normal Training Class were stationed in the different schools to learn the art of teaching. Such being the case, they should stand before master workmen, experienced teachers, whose work is both superior and philosophical. As a preparation for the successful career of the teacher, it is necessary to understand the subjects, and the method of teaching them. The true teacher not only imparts knowledge to his pupil, but enables him to appropriate and systematize all branches of knowledge to himself, so that when the pupil leaves the school, his education will not end, but continue to progress. Knowledge obtained indiscriminately is largely inoperative, and does not benefit the possessor. Empiricism will never elevate the intellectual tone of our schools; only educated minds should be employed to train minds. To place a teacher before a class without any professional instruction, is to do her and her pupils an injustice. In the primary grades, when the perceptive faculties are most active, and memory comes in to fasten indelibly the truths and impressions received, the teacher has mainly to deal with facts and the relation of

things, in their simplest concrete forms. In the grammar grades reason and judgment, aided by the imagination are aroused to the comparison and analysis of facts, and the discovery of laws by which these facts are related. The course of study proposed for the High School comprises such instruction and branches of study as will give to its pupils both a general and special preparation for usefulness in after life. For those who desire a course of thorough mental training and those who wish to lay a foundation for the acquisition of knowledge, or to prepare for a more extended course in the future, provision is made for the study of mathematics to such an extent as the wants of the community demand. The scheme provides, also, for instruction in Natural and Physical Science, from which the pupil may obtain a general knowledge of principles, and their application in the various departments of industrial life. He says that he is not quite sure, but it would be much better for the boys who have completed the grammar school course, to attend a Technical school for four years, then to continue their studies in the High School. Is there not a growing tendency in too many of our High Schools and Colleges, to educate our boys away from manual labor? The youth who issue from our public schools, should go forth fully persuaded that work in the shop, or on a farm is not only permissible, but honorable. A school that breeds an intellectual vanity, and makes the youth of a town or a city long to be poets, or historians, or lawyers, or orators, or millionaires, is very narrow and false; but broad, just and true is the teaching of that school which sets forth the importance of labor, and that all industry at the desk, or in the shop, or behind the plow, is honorable. All that I have said under this head, I desire to relate to the education of girls. Let them have a fair chance in this noble building up for future renown and usefulness. Let her education be broad, deep and cumulative,—teaching her, as well as the boys, that it is honorable to work,—that she holds in her hands the living force of constant life, with which to adorn the highest, purest, and the best civilization. I believe that it is safe to assert that the Normal School is now doing purely normal work. Such a school should instruct teachers how to teach the subject. No success can be attained in any department of life's work without a knowledge of the business. A teacher should be satisfied with nothing less than a thorough knowledge of the subject. "A teacher who has learned enough has taught enough." It is safe to predict that our teachers will do superior work, after they learn how to teach. The most hopeful sign is that the teachers are moving forward—the horizon begins to enlarge, and even to-day rational work may be witnessed in many class rooms. A course of study is a general guide, prescribing what each teacher is to accomplish, yet it is not to be followed specifically. To develop power is the aim of education, not to cram facts or items of knowledge into the pupil's mind.

Mass.—The towns of Canton and Milton, jointly employ Mr. G. J. Aldrich as Supt. The average daily attendance in Milton was 415. He says: Nothing has impressed me more than the great differences to be found existing between the several schools of the town, varying from a high point of excellence to an equally marked state of inferiority. I have repeatedly found children deep in the mysteries of Greene's Introduction, who were utterly unable to write a page of respectable English. Their production when considered with reference to, 1. Penmanship; 2. Arrangement; 3. Spelling; 4. Use of capitals; 5. Punctuation; 6. Correctness of expression,—would be deemed exceedingly poor by the most charitable. I say nothing here in regard to the quality of the thought expressed. It is far easier to train a class to write a good page from dictation, a process largely mechanical, than to produce a good page of original matter. In the latter case the quality of the thought comes up for consideration, and it is evident that here is a field which admits of never-ending cultivation and improvement. I shall be content here with considering the mechanical part of the work, wherein the end is to secure for every child the ability to produce a page of English which shall be well written and arranged, made up of correctly spelled words, properly punctuated and capitalized. To show how much this end seems to have been overlooked, and to indicate how much there is to be done in this direction, the following illustrations are offered:—

2d and 3d Grammar Classes; 31 scholars; Dictation:—

I. "This is the month in which we get May flowers."—6 scholars wrote correctly.

II. "Don't go too near to the engine."—1 scholar wrote correctly.

"My teacher's name is Mrs. Williams."—

1st, 2d, and 3d classes, Grammar School, 27 present; 7 scholars wrote correctly.

1st, 2d, and 3d classes, Grammar School, 34 present; 6 scholars wrote correctly.

1st, 2d, and 3d classes, Grammar School, 24 present; 5 scholars wrote correctly.

A mixed school, 1 scholar wrote correctly.

A mixed school, 4 scholars wrote correctly.

I attach no undue importance of these illustrations. They are quoted as demonstrating, more forcibly than many words would do, the existence of a marked weakness in the schools, and the necessity of doing a kind of teaching which has been very largely neglected. The chief use made of a knowledge of spelling is in producing words at the end of a pencil or pen. We judge of the correctness of a word so produced by the sense of sight, and it would therefore seem evident that it is principally by means of written spelling that the ability to spell correctly and the habit of so doing will be acquired. There are many reasons why words properly used in connection with other words afford much better material for spelling lessons than the columns of words found in spelling book. To teach only the spelling of a new word is a positive wrong, inasmuch as the best opportunity for teaching its use and meaning is thereby sacrificed. If I am not mistaken, too great attention has been paid in our schools to oral spelling, and the assigning of lessons from the spelling-book has usurped the time which should have been spent in exercises of a different character.

My first work on coming to Milton was to obtain specimens of penmanship from all the children who had used pens. These specimens, when collected, showed the need of a great deal of work in this particular direction. I name as the qualities of a good handwriting, taking them about in the order of their importance: 1. Legibility; 2. Ease; 3. Rapidity; 4. Elegance. It is to be remembered that writing should cease to be an end, and become a means as early as possible. It is one of the tools of the scholar's trade. I have seen but little good teaching of writing. A large share of the written work is poorly arranged, poorly written, and shows a lack of painstaking and pride in their work on the part of the writers. The most difficult thing to bring about, then, will be to induce a habit of doing the work in the right spirit. Nothing impresses a listener to the upper grade reading more strongly than the absence of any thought of the hearer on the part of many of the readers. This is evinced in many ways, out strikingly by the frequent turning of the head, face, and body one-quarter or one-half away from the listener. In silent reading there must be the mental effort of getting the thoughts from the printed page. Reading aloud implies, to be sure, the same mental process, but it means further the interpretation of the thought so gained, to the listener.

"It has long been received as a fundamental principle of teaching, that it is not so much the thing taught as the manner of teaching it that constitutes its value to the pupil." That the truth of the above proposition has been largely ignored is the chief criticism to be made upon the work in Arithmetic. Too much rather than too little has been attempted; too little rather than too much has been accomplished. The text-book rather than the teacher seems to have occupied the prominent place. In order to achieve success most of the instructor's time and energy must be devoted to teaching, not to the hearing of recitations, or to testing the results obtained. Because of haste to reach advance topics there has been a failure in securing certain vantage ground, which is absolutely essential to success in teaching the advanced topics. It is plain that all the work in the application of numbers, as related to denominate numbers, to fractions, to decimals, business arithmetic, etc., will be vitiated unless the ability to perform correctly and rapidly the fundamental operations is first secured. An author of the great experience remarks, "Addition in the operation in which more mistakes are made than in any other." In deciding upon the proper course of procedure in teaching arithmetic we must consider at least two things: first, the amount of knowledge which will be required by the average person in practical life; second, the mental culture which is to be acquired as the result of the teaching. The first will be far less than is commonly supposed, far less than is bound within

the covers of most arithmetics; the second will be determined by the quality of the teacher. All our classes need to be trained to "read" examples. They must be lead to grasp fully all the conditions, to perceive clearly all the relations, and to distinguish between what they are told in the problem and what they are asked. Nothing is more common than for scholars, once an example is put before them, to grasp a slate pencil, and at once lose themselves in a labyrinth of figures, with no inquiry as to why or wherefore, and without the thread which shall conduct them from the maze in which they are involved. Just as as a man is said to be a bundle of habits, so the scholar who has been some years under instruction, is a bundle of school habits, and for the character of these habits we are responsible. When the child entered school, at six years of age, these habits were as yet unformed; they have not only grown under our eye, but have determined by our training.

The following simple problem was put before several classes early in the year, and answers examined, after a reasonable time for its performance had been allowed:—

What will be the cost of fencing a lot of land 100 feet long and 50 feet wide, at \$1½ per running yard of fence?

School A.—1st, 2d, and 3d Grammar classes, 41 scholars, 6 correct.

School B.—1st, 2d, and 3d Grammar classes, 34 scholars, 2 correct.

School C.—1st, 2d, and 3d Grammar classes, 27 scholars, 5 correct.

School D.—1st, 2d, and 3d Grammar classes, 24 scholars, 7 correct.

School E.—Mixed, 1 class, 7 scholars, 0 correct.

School F.—Mixed, 2 classes, 16 scholars, 2 correct.

EDUCATIONAL MISCELLANY.

For the School Journal.

Suggestions to Teachers About Securing Situations.

By T. W. FIELD, Powers, Ind.

Associate-Editor of the Common School Teacher.

I.—Many worthy persons in life go without employment, or else occupy positions below their qualifications, because of a timidity or dread in asking for that which they are well qualified to fill. Others, equally as worthy, fail to secure their positions for which they aspire because they do not go about it in the right way. To no class of persons does this seem to apply more truthfully than to teachers. It is no uncommon sight to see teachers filling positions for which they are but indifferently qualified while others are occupying humble places with meagre salaries that deserve more honorable and paying situations. The teacher should first decide upon the character of the school he desires. After having made such preparation for the work of teaching as your circumstances would admit, the next matter to present itself to you, is, How to get a situation. Before any application for the position is made, you should well consider the kind of school you desire. To aid you to act intelligently and safely in the matter you should be so familiar with your own qualifications as to know just the character of school which is suited to you, or rather to which you may easily adapt yourself. Your literary qualifications, age, health, location, distance, and perhaps several other considerations, may enable you to determine this in your own mind.

Should your knowledge of the branches to be taught be proficient, you need not hesitate to seek for a school well advanced. If, on the other hand, you are conscious of deficiencies in this respect, a safer plan would be to apply for a school whose pupils are less advanced. It may be that with such a school you would prove to be a most excellent teacher; when if you undertake a task for which you are scarcely prepared, it will prove a tiresome duty, become distasteful to you, and likely be the means of your failing to give entire satisfaction. If your health is not good, do not seek for a large school, or one which will require too much labor for you. It would be better, were I to say do not teach at all. But in life we are often compelled to work even when we may desire rest. This may be your circumstances.

Seeking a School.—After having decided the matter with yourself regarding what you consider as a proper school for you, the next step to take is to secure the situation. This is no easy matter. It requires tact, influence, and often considerable effort to succeed. If

you are well acquainted with the school and patrons you will know better what course to pursue. In every school district there is always one or more families who exert a greater influence than others. There is in society always some individual whose opinions prevail over and count for more than all others. If you know such persons, or such families, get their influence in your favor as the first step. Do not let everybody know your intentions at first. Many young teachers often fail by this imprudence. Get a person of influence to work in your behalf, and he will accomplish more for you than you can for yourself. Very generally this person is the school director, or perhaps the pastor, physician, or some person of a public character. Do not try to "patronize," that is trading, as politicians do; offering to secure some personal favor for the party that will obtain a position for you. This is beneath a teacher's dignity. There is, however, no impropriety in paying one for his time and trouble that he may have devoted to your service. A very honorable, and most excellent teacher, once told me that he never spent much time with school boards and school trustees. He merely formed their acquaintance, and made his application, and then employed an attorney to do the rest—taking care to engage one of intelligence and influence. He said that he never failed to get a position and to get a good salary. We think this method, however, fair as it may seem, is open to abuse, and school committees would be liable to be imposed upon, if this were the general practice.

Sometimes it may be policy to interest a relative in your behalf. If the party has influence with those whose business it is to employ teachers, this is a very good plan. If on the other hand, the relative has but little away, it will not be prudent to have him over anxious for your success.

When you are a stranger, it is always best to apply in person to the school authorities. They desire to see the teacher whom they employ, and you will wish, also, to become acquainted with them. If one has a good personal appearance, as every teacher should cultivate, it is greatly in his favor to present his application personally.

Why the Schools do not Succeed.

Mr. William F. Scott, Superintendent of Ozaukee County, Wis., uses plain words. Read them:

"I observe with much surprise and regret that more than forty-nine per cent, about one-half, of the children of school age in this county, were not in attendance upon the public schools, during the past year.

"Following the examination, I addressed a circular to the school officers, informing them of the names of the well-qualified teachers, and urging them to secure the services of such teachers for work in their schools, during the coming year.

"Our teachers' association was organized in September, 1877, and since that time held its regular sessions upon the last Saturday of each month, with the exceptions of the months of July and August, when vacations have been taken. The sessions of the association have been, in general, pretty well attended by teachers and patrons. During the first year, the exercises of each session consisted mainly of music, essays, declamations, select readings and debates. At the first session of the second year, a new feature, class exercises, was introduced. These class exercises have since been continued with excellent results. They have been very suggestive of methods of study and of the presentation of thought, and have aided many of the teachers in their efforts to improve their knowledge of several branches.

"The association owns a library of 120 volumes, of which there are many excellent works for teachers—such as those written by Page, Northend, Holbrook, Phelps, Wickersham and others, and many well-selected works on biography, poetry and history. Our library has accomplished much good for the cause of education in this county. It has, we believe, materially increased the membership of the association, and the attendance of each session.

"Quite a number of our teachers were prepared for the work in the academies and normal schools of Europe, and have in the fullest sense of the term, made teaching their 'live work.' Several of them have taught more than twenty-five years, and the greater part of that time in the public schools of this county. On visiting the schools taught by these teachers, it was a great pleasure to observe how quietly, thoughtfully, and effectually they pursued their labors, although their manner of presenting thought and developing ideas partook of a foreign cast.

In our teaching force here, as elsewhere, there are some who seem to be mere creatures of salary, without love or respect for the work, without an interest in the future well-being of their pupils. They are, as a class, possessed of little or no intellectual qualification for the work of teaching. They have spent neither time nor money in preparing for the work, and can, consequently, offer their services (dear at any price) for much lower wages than good teachers can, who have spent both time and money in preparing for the work. Through erroneous ideas of economy, they are too often employed. The schools suffer in consequence. When refused certificates, they usually plead poverty as the reason why they should be given something to teach. In their view, the money raised for the support of the public schools is a charity fund for their special benefit.

"The real and sole cause of the backward condition of our schools, is the custom of granting certificates or high standing to the class of teachers above referred to; these certificates were palmed off upon the district boards, by whom they were received in good faith, as evidence of scholarship and ability to teach, when the holder in fact possessed neither."

Popular Names of States.

Arkansas—Bear.
California—Golden.
Colorado—Centennial.
Connecticut—Nutmeg or Free Stone.
Delaware—Blue Hen or Diamond.
Florida—Peninsula.
Georgia—Empire of the South.
Illinois—Sucker or Prairie.
Indiana—Hoosier.
Iowa—Hawkeye.
Kansas—Jayhawker or Garden of the West.
Kentucky—Blue Grass or Dark and Bloody Ground.
Louisiana—Creole.
Maine—Lumber or Pine Tree.
Massachusetts—Bay.
Michigan—Wolverine.
Minnesota—Gopher or North Star.
Mississippi—Bayou.
New Hampshire—Granite.
New York—Empire or Excelsior.
North Carolina—Old North or Turpentine.
Ohio—Buckeye.
Pennsylvania—Keystone.
Rhode Island—Little Rhoda or Rhody.
South Carolina—Palmetto.
Tennessee—Big Bend.
Texas—Lone Star.
Vermont—Green Mountain.
Virginia—Old Virginia or Mother.
West Virginia—Pan-handle.
Wisconsin—Badger.

Arithmetic.

In arithmetic, there is work enough to be carried through every term in ten years, if the boy or girl is to become thoroughly skillful in what we mean by practical mathematics,—indeed, two years might be spent with solid profit upon the allied subjects of decimal fractions and percentage. If teachers and school inspectors doubt the accuracy of this statement let them consult business men. It is an almost universal fact that a man occupying a responsible financial or mercantile desk has had to acquire his capability to transact his duties by making them a special study after he has left school, no matter how many years he remained there. Arithmetic is begun early enough in the course of study, but it is dropped too soon.

Of late years, a correct instinct has led to what is technically called mental arithmetic—mathematical operations without material aid. This is begun early enough, but there is not enough of it. It is by far the best means of developing logic in the child's mind; it not only familiarizes him, gradually and happily with the various in numbers, but it is the most efficient method of inducing the application of reason in all his mental efforts. Yet it is practised only twenty minutes a day, through a year and a half or two years, and receives less consideration than drawing—which is time thrown away,—or music, which is delightful and desirable, but, after all, not practical; and less than any other of the dozen superficialities which make an imposing display in a

course of study, but which do little service in the fitting of a boy or girl for bread-getting.

Arithmetic, mental and practical, should be continued until the last day of a common school course. It will be objected that pupils will have "go over the same thing." So they should; there is no other way by which children acquire permanent knowledge. To memorize a rule is necessary; but it will be forgotten. But to perform again and again the operations from whose principles the rules are derived, will enable the mind involuntarily to evolve the rules, and the methods will be fixed by the practice. As the average course of study is now divided, a child, with his feeble, forgetful faculties, is expected to perform ten years' mathematical work in six or less, and the heaviest misfortune is that the course takes him over in his infantile period the very principles and practice which he should have an opportunity to study latest and last. Arithmetic ought to be begun very early; but it should occupy, with grammar and composition, the largest part of each day in the last two years of a common-school system. Would it not be more reasonable to give the senior boys of the high-school half an hour a day in mental arithmetic than in mineralogy or geology, astronomy or botany? These have their proper value; but they are not valuable, to the exclusion of arithmetic, for boys and girls who will leave the high-school to earn their bread. Their value comes later in life.—*Exchange.*

What the Children are Reading.

There are in the Boston Public Library and its branches some 50,000 volumes that come under the general designation of "juveniles and fiction." These books have been purchased on the general principle that "the library was to furnish such reading as the public desired, provided that it was not of a marked immoral character." During the six years ending May 1, 1880, these books had been circulated 4,342,993 times, which was about three-quarters of the entire circulation of the library. If magazines and story papers were included the circulation would be more than 6,000,000. The librarian says: "Of the 1,200,000 volumes circulated yearly by the Boston Public Library, there were reasons for supposing that three-quarters were read by young people, the greater part of whom were pupils in the public schools." These children, then, a very large proportion of whom were from well-to-do families, had been in the use of "not only a great mass of worthless and neglected trash, but also many vapid and sensational productions, and many books of a directly immoral tendency."

The evil grows. The superintendent of public schools says: "Facts within my own observation, and the statements of many of my associates, lead me to think that the practice of reading trashy, sensational novels is a much more grave and rapidly-spreading evil than is generally supposed. Some board of mental and moral health seems to be needed in these days of free books." He goes on to say: "The only effectual remedy for the evil would seem to be to purge the library at once of all objectionable matter, burn all the 'trash' now on the shelves, and never allow any more to be put there. * * * Be the amount great or be it small, I can see no sure prevention of its use by the young except in its complete withdrawal from circulation." He would add the systematic efforts of parents and teachers to replace the trash with good books, and to thus cultivate better tastes and habits of reading among the young, with hope of the best results.

Alphonso Wood.

Alphonso Wood, widely known as the author of several works on Botany, was born Sept. 17, 1810. His first fifteen years were spent at home, in the old parsonage, dividing his time between rural employments, study in the village school and academy. After this, his winters were occupied in teaching village schools, until the date of his graduation at Dartmouth College in 1834. Immediately after this event he engaged as teacher of natural history and Latin in Kimball Union academy at Meriden, N. H., where, with an interruption of one year only, he remained during the next fifteen years. It was during his residence here that he first conceived the purpose of preparing a Class Book of Botany. On entering upon his duties in the academy Mr. Wood did not fail to introduce into its curriculum the study of botany. But here, surrounded by his waiting class of half a hundred, he is soon made conscious of a serious obstacle in the way of this study, viz. the lack of a text book.

In this dilemma he applied for relief to some of the most distinguished botanists of the day. By letters and by personal visits, he endeavored to enlist men already known as botanical authors, in the preparation of a "compendious class book of botany." But in vain. He was answered "that there were already too many such books." Thus, after two years of importunity, he was compelled to fall back upon his own resources and to consider the possibility of preparing a class book for himself. "In fear and distrust, conscious of his deficiencies in view of so vast a work," he entered upon the task, and during the ensuing seven years prosecuted it with ever increasing interest. The work was not stereotyped, being an experiment and only fifteen hundred copies were issued. An unexpectedly great demand soon exhausted this edition. In preparing this edition Mr. Wood passed the spring and summer of 1849 in the Western States botanizing on the prairies and barrens in order to extend his flora as far west as the Mississippi river.

In the spring of 1849 he resigned his professorship in Kimball Union academy on account of impaired health, and entered upon an active service as civil engineer in the construction of a railway from Rutland. He was afterwards connected with the female seminary at Cleveland, the Ohio Female college and the Terre Haute Female college. In the autumn of 1860, in order to accelerate the printing of his books, Prof. Wood removed with his family to Brooklyn, N. Y. The Class Book had now become an important interest. To extend the area of its flora, an exploration of the Southern States, lasting six months of the year 1867, had been accomplished, and after having completed its third reprint, Professor Wood again resumed the business of instruction, opening in 1861 the Brooklyn Female academy; here he was engaged five years, but the love of his favorite science again allured him away, and in Oct., 1865, he embarked alone to California. In the Pacific States he remained one year in constant travel, surveying the mountains, rivers and rocks for the plants of that glorious land, from San Diego to Puget's Sound, returning by way of the Isthmus in November, 1866.

For the last two years, in connection with writing anew and revising his former works, Professor Wood has filled the chair of Botany in the New York College of Pharmacy. Williams College conferred upon him the well merited title of Ph.D. in 1880.

His death Jan. 4, 1881, removed from the world an earnest teacher, an industrious and able writer, and a faithful Christian.

The Utilization of Knowledge.

It is a suggestive circumstance—suggestive to young inventors at least, and encouraging withal—that the very first manifestation of electric action observed by men, namely, the attraction which an electrified body has for light objects, is the last to be signally utilized in the arts; and that, too, not in some new or original art by some learned investigator in electrical science, but by a couple of boys, and in an industry which is as old as civilization.

The development of what is called frictional electricity by lightly rubbing a poor conductor, like amber, wax, glass, or hard rubber, by another like silk or fur, is and long has been an initial experiment in all courses of electrical instruction. It is the earliest experiment made by or for the student; and one of the substances commonly mentioned as well suited to exhibit the phenomena of electrical attraction and repulsion is bran.

One of the great mistakes of students, fostered unfortunately by the conventional methods of instruction, lies in making education acquisitive mainly. The idea is to get knowledge, much knowledge, and then, if possible, apply it, forgetting that the mental habit acquired by the search for knowledge for its own sake is rather calculated to make the man an intellectual miser, a hoarder of information, than a practical user of knowledge. Much less information, coupled with a habit of turning information to use, is worth infinitely more to the possessor and to society.

Knowledge acquired as an end in itself is a delusion, a source of weakness rather than power. It is apt, also, to be of a shadow elusive sort, in no way to be compared with the real knowledge which remains after each fact or idea has been worked over, tested, weighed, and measured by practical application.

And the student who aims to become something more than a learner, namely, a doer, possibly a creator, must

never allow himself to think that the possibilities of any fact or phenomenon have been exhausted, so far, we mean, as its utilization is concerned. The habit of inventing, in other words, seeking novel and useful applications for the knowledge gained, should go hand in hand with acquisition. The apparent progress will not be so rapid, may be, as by the method of cramming, but it will be real and not liable to backsliding, while the possible profit of it will be incomparably greater.—*Scientific American.*

Politics and the School System.

It will be vain for us to strive to preserve our school system from political intrusion, if any considerable proportion of school officers and teachers be found among the active combatants on the political arena. As long as a man is content to exercise his rights of citizenship without attacking those who differ with him, there is no just ground for his proscription; but if he be an aggressive party worker, he cannot reasonably expect to be put in office, or kept in office, by his political opponent. This would be too much to expect of human nature. Therefore, school officers, so far as they are personally concerned, have this practical alternative before them—either they must avoid party activity, or they must expect to be dropped whenever the opposing party may happen to be in power; unless perchance they have some peculiar sort of strength. Nor could their opponents be blamed for this, if they carry their action no farther than the dropping of partisans. The mischief to the school system comes when they proscribe all who differ with them, and in their new appointments select only from their own party, thus rejecting the principle of giving to the people the best abilities to be found in the community. Whenever this state of things comes about, as shown elsewhere, our school system becomes a degraded and disgusting affair.

Whilst, of course, we have no right to dictate to anyone what shall be his conduct in this matter, we may without offence ask all who are engaged in the work of education, to consider how great is their responsibility. If our beneficent work is to be dragged in the mire of politics, we certainly must bear a considerable share of the blame. If our own skirt be clear, the public will sustain us in the doctrine that education ought to be non-political in all its appointments. There is such manifest propriety in this view, that nothing can overcome its influence on the public mind except political passion and resentment. With prudence and moderation on our part, and a manifest preference for educational usefulness over party success, we may carry the school system safely through these dangerous times of party bitterness, and perpetuate its non-partisan character. Are not our public spirit, our love for the school work, and our sense of responsibility, sufficient to control us in the emergency? God grant that it may be so.—*Va. Ed. Journal.*

EXPORTERS of petroleum to Germany should not forget that the established test is 110° Fahr., and that hereafter the oil will be examined by government experts and none allowed to enter Germany which is below this standard.

CEMENT FOR RUBBER.—Powdered shellac is softened in ten times its weight of strong water of ammonia, whereby a transparent mass is obtained, which becomes fluid after keeping some little time without the use of hot water. In three or four weeks the mixture is perfectly liquid, and when applied, it will be found to soften the rubber. As soon as the ammonia evaporates the rubber hardens again—it is said quite firmly—and thus becomes impervious both to gases and to liquids. For cementing sheet rubber, or rubber material in any shape, to metal, glass, and other smooth surfaces, the cement is highly recommended.

THE great German Egyptologist in Egypt, Brugsch-Bey, is now busy among some pyramids on the site of ancient Memphis. By great effort he has succeeded in finding the entrance to three of them, and he is now industriously working his way into the interior. Thus far he has been rewarded by some very rare discoveries. He has already found indications that the ancient Romans have been in there before him, and have left their marks by vandalism. It seems that excavations have been made and much destruction caused by careless work. The roof of one interior is destroyed, but the walls are standing, and seem, as far as brought to light from the debris, to be covered with hieroglyphic inscriptions. He describes these latter as cut deeply into the stone, and then painted green. He has already discovered the name of one of the Pharaohs of the period to be *Friend of the Sun*.

FOR THE SCHOLARS.

Dialogue.

Henry: I have no liking for grammar, and it seems to me to be a hard, dry and useless thing.

George: Not useless; don't say that. I used to think so, but now I see that it is very important.

H. Did Adam study grammar? Did not he and his descendants get along well enough?

G. That is your stock argument; I will dispose of that in short order. I do not suppose that Adam spoke very good grammar, nor do I suppose that he had very good clothes; but you believe in tailors, I see. Grammar is to speech what skill is to cloth; you like good well-fitting clothes, I know.

William. He has you there, Henry; give up gracefully.

H. Well. I have no doubt that language is more pleasing when well spoken than when it is not; but you do not take my point. I hold that any one can learn by hearing it spoken; it is not necessary to go to school and study books to know how to do this.

W. That is not so, however; and to prove it I will show you that I am correct. I will read what I found in a paper. Listen: "Would you do this if you were I?"

H. Of course, that is not right; it should be me.

G. Let me try him. Is this correct? "I tell you it is not he."

H. Why, no; it should be him.

W. Ha, ha, ha, that is good. He does not need to study grammar, does he, George. (*Derisively.*) Oh, no, not at all.

H. Well. It does not sound well to say, "I tell you it is not he."

W. Sound well or not it is correct.

G. Let me try him. Is this correct, "Whom are you looking for?"

H. (*Pausing.*) No, of course not; it should be, "Who are you looking for?"

W. Caught again. And you do not know why you are wrong and we do.

G. It is no common thing to find bad grammar in the books. You see grammar is a science like arithmetic, and must be studied. I found in a popular book this sentence, "It was me you saw at church and not John."

W. And I saw this, "Who does the cane belong to anyhow?"

H. Well, boys, I think I see a little further than I did awhile ago. But is it not a very dry study?

G. Yes, at first it is; but after a while it is very interesting. In fact most people like grammar very much. There are a few rules, and then you have the whole thing at your tongue's end.

W. Join the class, Henry, and you will not regret it. (*Standing in a line all bow and go out.*)

—*Scholar's Companion.*

Making Money.

Some people can hardly make a living, and some lay up money. Why is it? Into a village of a few hundred inhabitants a young man came and was employed as clerk in the store; he lived there 50 years and laid up \$100,000. Other men worked as hard, but did not lay up money.

Near that village was a large and beautiful farm. The owner of it had it from his father. He did not drink nor gamble, and yet he could not make a living, and so borrowed money, and to secure it gave a mortgage on the farm. In a few years the farm was sold and he was obliged to move away. A Scotchman, with but little money, and with a large family, passed by and saw the house was vacant and struck a bargain with the owner. He began to work, to save, and to pay, and in ten or twelve years he was the entire owner. Then he went on and laid up money, and is now a rich man.

The art of making money is one that should be carefully studied. If you take a dollar and lend it out at six per cent interest, it will double itself in sixteen years. If you take a dollar and buy some thing with it, and then sell that at a profit, and so keep doing, you increase your capital. These three ways are the foundation ways of money-making. All business is in one of these three forms. Those who succeed the best are those who know the most about what they do.

The sun should not set upon our anger, neither should he rise upon our confidence. We should forgive freely, but forget rarely. I will not be revenged, and this I owe to my enemy; but I will remember, and this I owe to myself.—*COLTON.*

Brazil.

BY PAULINE DYES.

I ask you to take a trip with me to Brazil, the vast empire in South America. Its area is a little less than the whole of Europe. The Atlantic bathes its coast for more than 4,500 English miles. The principal mountain ranges run east and west, north and south, and are well wooded. The lakes are numerous, the largest being "Dos Patos," (lake of the ducks,) and "Merim." Both are in the province of Rio Grande de Sul. Brazil, like the United States, is covered with a net-work of rivers. Some are navigable for great distances. Others are full of rapids and can be traversed only by canoes or small boats. The portion of the country lying within the torrid zone is not insupportably hot. The abundant rains which fall in their so-called winter season (though it is very warm indeed,) from March 22, until September 22, and the trade winds fanning the eastern coast render the climate very agreeable and generally healthy. On the table lands of the interior, the climate is salubrious and springs and small streams of pure water are abundant. The country is rich in mines of gold, iron, coal and precious stones. The forests abound with varied and costly woods. The geologist, the entomologist, and the botanist have a vast and for the most part, unexplored field inviting research. The soil yields the necessities and luxuries of life. The productions in some sections of the country are remarkable for their variety. There can be raised on the same farm (called Engeneo or Fazenda in the Portuguese language,) coffee, sugar, tea, rice, cotton, corn, tobacco, pepper, nearly all the fruits and vegetables of the Northern hemisphere as well as those peculiar to the tropics. A very natural inference from this statement would be that Brazil is a very cheap country to live in. It is exactly the reverse, as every one who has either traveled or lived in the country knows to his cost. This vast empire is governed by Pedro II, and is divided in 80 provinces and one "Município neutro," Rio de Janeiro capital of the empire. Seventeen of these provinces border on the Atlantic and only three, Minas Geraes, Goyaz and Matto Grosso, are in the interior.—*Scholar's Companion.*

ANCIENT RUINS IN LA CASA.—People visit Arizona to see the ruins of the old Aztec buildings. They look like small hillocks or mounds of earth looming up on the level desert, and can be seen for many miles. When reached, and you climb the summit of the principal hillock, it does not seem to be over 15 or 20 feet high, and covers half an acre of ground. Scattered all over the ground can be seen innumerable pieces of pottery, some of it neatly painted, although little of it is large enough to give any idea of the design. If you dig down in any of the ruins to the level of the earth's surface, you will find what was once the floor of an Aztec house, with a fireplace in the corner of the room, the same as would be constructed by the Mexicans of the present day. If you excavate underneath the hearth in front of the fireplace you will invariably find human remains, showing that they buried their dead there. At Florence, when digging a well at a depth of eighty feet, Aztec relics were found, but nowhere have I seen or read any thing that would give a clue to the date of their occupation or extinction. A century has not materially changed the appearance of the country, the customs of the Indians or their traditions. Whence the Aztec race came or how they perished and faded from the earth is probably something that history will never tell us.

LABELING FISH.—Within a few years a great deal of attention has been given to the raising of fish. Trout, salmon, and black bass are considered to be the most valuable. In the lakes in New York, millions of young fish are placed every year in order to stock them. In former times the fish came up from Lake Ontario through the rivers and laid their eggs, and then went back again, but now the existence of dams on the rivers prevent this; and so the lakes have become depopulated. If this course is followed for a time the lakes will be stocked again with fish. The fish commissioners of Maine have labelled with light metal tags, several hundred salmon, which they have put in the Penobscot River. Each fish is numbered and recorded. The commissioners now ask whoever catches a labelled salmon in any waters of the State to forward to them the fish, for which they will pay an extra price, or else to forward the label and whatever they know about the fish that wore it. They will weigh them, and thus ascertain how much they gain in weight in a given time.

HOMERON'S ACID PHOSPHATE used habitually, renders the system less liable to the attacks of sunstroke.

BOOK DEPARTMENT.

NEW BOOKS.

Publishers will favor themselves and us by always giving prices of books.

A MANUAL OF SUGGESTIONS FOR TEACHING FRACTIONS, by Woodhull W. Davis. Syracuse: C. W. Bardeen.

This little volume contains sixty lessons "for developing the idea of fractions." By this is meant, probably, making clear what is meant by fractions, and the methods of using them. In lessons 9 and 10 a very common fault of the school-room is apparent: an effort is made to teach terms that must be, for the supposed age of the pupils, valueless and worse than useless lumber in the mind. Whether the child knows that a fraction is *proper* or *improper* is of little consequence. There are many excellent features in the book, but the natural method is only partially followed.

INTERMEDIATE LESSONS IN NATURAL PHILOSOPHY. By E. J. Houston, A.M. Philadelphia: Eldredge & Bro.

This is designed for the use of pupils who have finished some preparatory work. The explanations are in many cases based on experiments. The definitions are clear and the subjects are well stated. But in an elementary work, should such sentences as these be found: "As far as we know, there exists a certain definite quantity of matter and energy in the universe. During changes one or both may disappear, but only to reappear in some other form." The only fault we can find with the work is that "it is too old." It is adapted for the higher grades in the grammar schools.

THE FAIRY LAND OF SCIENCE, by Arabella B. Buckley. New York: D. Appleton & Co.

This author is very happy in lecturing before children on scientific subjects. She explains well known natural facts in simple and pleasant language. The Sunbeams, the Atmosphere, A Drop of water on its Travels, Water and Ice, Life of a Primrose, History of a Piece of Coal, Bees in the Hive, and Bees and Flowers are the titles of the chapters. From this it will be seen that the author has selected her subjects with reference to aiding children to know about nature. It will be found useful for teachers.

ASPECTS OF GERMAN CULTURE, by Granville Stanley Hall. Boston: James R. Osgood & Co.

The subject of Religion, Vivisection, The Passion Play, Pessimism, the New Cultus, La Salle, are among the subjects discussed. It will be remembered that the author is lecturer at Harvard College, and that in 1878-9-80, while in Germany, he wrote a series of letters to the *Nation*. Many of the articles in the book were thus written. The volume will be valuable to all who desire to follow the current of German thought, and this number is rapidly increasing in America.

GEOGRAPHICAL PLAYS FOR SCHOOLS. By Jane Andrews. Boston: Lee and Shepard.

These will be found to contain a great variety of information. The plays may thus be serviceable to review the facts gathered from the geography.

THE NEW YORK EXAMINATION QUESTIONS, being the questions given at all the Examinations for State Certificates from the beginning to the present time, embracing three thousand questions in Reading, Writing, Drawing, Arithmetic, etc., together with Latin as an optional in place of Geometry. To which is added a list of the successful candidates. Syracuse, N. Y., C. W. Bardeen, Publisher. Price 25 cents.

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CAMBRIDGE SERIES OF INFORMATION CARDS FOR SCHOOLS, (price 2 cents each.) Boston: Lee & Shepard.

The cards before us discuss sugar, the sun as a worker, the employment of time, combustion, the Sphinx at Mount Auburn, the English language, and the Yosemite Valley. They will be useful in the school-room.

PRACTICAL ETIQUETTE. By N. C. With a chapter on business correspondence and applications for positions, by the editor of the *Practical Teacher*. Chicago: W. L. Klein & Co. Price fifty cents.

Although small in size "Practical Etiquette" is complete and more might be learned from the brief rules given in it than from a more lengthy treatise. The chapters on school-room etiquette and applications for positions should recommend the book to teachers.

M. TULLII CICERONIS DE NATURA DEORUM, exhibited by Austin Stickney. Boston: Ginn & Heath.

This is a well printed edition of Cicero's celebrated Essay of the Nature of the Gods. The notes are full, ample, well pointed and elucidate the syntax and the subject discussed.

SHAKESPEARE'S ROMEO AND JULIET. With introduction and explanatory and critical notes by Henry N. Hudson. Boston: Ginn & Heath.

Another volume of Mr. Hudson's series of annotated English classics is off the press and is in no way inferior to those which have preceded it.

THE NEW EDUCATION. By Amos M. Kellogg, A. M. New York: E. L. Kellogg & Co.

There are teachers and teachers. Those who know all there is to know do not need this book; those who do not care to know more than they know will find no use for it; but the larger and growing middle class who want to know more than they know will find a good many things worth knowing in this little book. It proceeds on the axiom that to teach one must first render pupils teachable, and shows how this can be done by those many little arts that come so naturally to some and with such infinite painstaking to others. It is not a great book, not exhaustive, not philosophical; but it is better—it is practical.—*Christian Union*.

GENERAL NOTES.

J. M. STODDARD & Co. have leased for a term of years the store at 13 East Fourteenth street, which they have fitted up expressly for the accommodation of their friends in New York and adjacent localities. The apartments are furnished with special reference to the convenience of those desiring to examine the "American Reprint of the Encyclopædia Britannica," and are stocked with ample material by which comparisons may be made with all the leading encyclopædias, thus affording exceptional advantages to any who may desire to investigate and decide as to the respective merits of each. Particular attention will be given by those in charge to the answering of any questions pertaining to the Encyclopædia. The twelfth volume of the excellent reprint of the Encyclopædia Britannica is now ready.

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that it has become necessary to provide for it the ample accommodations which their new location affords.

DANGERS OF ATHLETIC TRAINING.—Absolute health is attained only by the symmetrical development of all parts of the body. The man with muscles of steel and a diseased heart cannot be said to be in good health, and diseases of stomach, heart and nervous system are often—it may be said usually—produced by that system of development known as training. At a recent rowing match in Philadelphia two plucky lads in contesting boats fainted as soon as the race was over. Their condition, which was apparently good, was actually abnormal, and their systems gave way because the strain which their muscles met was too great for their vital functions. Recently a similar but more serious calamity occurred at Sag Harbor. A Brooklyn lad, who had taken part in a pedestrian contest, when removed from the track, fell dead. He had prepared himself for walking and running, and depleted his vital organs to build up his limbs. When the strain came the impoverished and most important part gave way. The severe muscular exercise of college athletes has carried off many fine young men by consumption, heart disease, and other disorders, directly traceable to the absurd overwork required of their bodies. There is a limit of human endurance. That limit is reached when the body is impaired in one quarter to benefit special organs. The severity of the test by which athletic prizes are won seems designed rather to award the laurels to him who is the least healthy, because more unevenly developed, than to the really best man.—*Journal of Chemistry*.

An Astronomical Event.

Next week will be notable in astronomical records for the great conjunction of Jupiter and Saturn on Friday morning. There will then be a very remarkable arrangement of the chief planets in the heavens. Jupiter and Saturn will be on the opposite side of the sun from the earth and almost in a straight line down from the earth through the sun. Far beyond them and approximately in the same direction will be the great planet Neptune. On the same side of the sun, but making a large angle with the direction of the others, will be Mercury, hastening to get into line with them. On this side of the sun, Venus will be drawing near to the same line, so that at the end of this week and the beginning of next week the sun and six of the eight great planets will be almost in a row, the earth being at one end and Neptune at the other. Uranus and Mars do not join in this planetary parade, Mars being nearly at right angles to the line, and Uranus far off in an-

other direction. Upon the peculiar arrangement the astrologers and other prophets of evil have based terrifying predictions. The conjunction of Jupiter and Saturn, according to the astrologers, foretells war in the East, because it falls in the sign Taurus. The last previous conjunction of Saturn and Jupiter in Taurus was in 1146, and the horrible slaughter of the second crusade, the astrologers say, showed the effects it produced. Moreover, as the conjunction occurs in the "ninth house of the heavens," which rules religion and the clergy, it foretells revolutions in the church. The Church of England, according to the prophecy, is to be deprived of its character as a State church, and fundamental changes are to occur in the Christian religions. The tillers of the soil are in luck; the astrologers aver that the conjunction will result in changes in the land laws favorable to the farmers. But unfortunate Ireland is to suffer from internal troubles and scarcity of food.

The predictions of those who profess to believe that the effect of the combined attraction of so many planets exerted in one direction will be disastrous to the earth are better calculated to alarm people than the outgiving of the astrologers. Yet a little study of the facts of astronomy will convince anybody that there is nothing to be feared. There is sufficient flexibility in the solar system to give room for the play of all known disturbing forces without injury to the whole or to any member of it. It is not to be denied that there are indications that the chief planets exercise an influence upon the sun that astronomers have not yet succeeded in measuring, and which may, through the sun, exert effects upon the earth. But such effects, if they exist, are not sufficient to cause any serious alarm, and it may be taken for an assured fact that unclean streets and bad sewerage are far more potent to produce a return of the Black Death, which the soothsayers threaten, than the most malignant planet in the sky. N. Y. Sun.

Judging by the taste of the young women of Lasell Seminary, at Auburndale, Mass., when it comes to industrial education, the girls prefer cookery to millinery, or even to dressmaking. Nineteen per cent of the students of that institution took practice lessons in cookery, and all attended Miss Parton's "demonstrations" in this art, while 10 per cent studied Miss Taylor's system of dressmaking. Very few paid any attention to millinery.

Professor, lecturing on psychology, "All phenomena are sensations. For instance, that leaf appears green to me. In other words, I have a sensation of greenness within me." Of course no harm was meant, but still the class would laugh.—*Ed.*

The Scholar's Companion.

This paper should be taken by every scholar, because it will help to educate him as no other paper will. A great many teachers aid us, but still there are many who have not yet seen the paper. To such we say, Send for it at once. We must have your aid. Determine that you will send us not less than ten subscribers. We will pay you splendidly for your aid. As no premiums are offered in the COMPANION you have the field to yourself. Send to us for premium list, if you have not one already. Many teachers are getting the Compound Microscope, etc..

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Cunning of a Fox.

Some fishermen on the west coast of Ireland were in the habit of going to a small island, a few hundred yards from the main land, in quest of bait. The island was inhabited by a large number of rabbits, and could be reached at low tide by wading, the water there being only a few inches deep.

One morning they went in their boat quite early, it being high tide, and on landing saw a dead fox lying on the beach. The fur of the animal was all bedraggled, and he seemed to have been drowned. One of the men remarking that his skin was worth something, pitched him into the boat.

Procuring their bait they returned to the main land, and the man who had possessed himself of the fox seized him by the tail and flung him on shore. As soon as the animal struck the beach he picked himself up with considerable agility for a dead fox, and shot off like a flash up among the cliffs, while the men stood staring at each other in mute astonishment.

The men concluded that he had crossed over to the island during the night, when the tide was low, in search of rabbits, and finding in the morning that he was cut off from the main land, counterfeited death, with the expectation of thereby procuring a passage to the shore in the boat, an expectation which was fully realized.—*Commercial Bulletin.*

HAVE IT RAISED.—New trustee: "Well, Mr. Syntax, you have a very fair school here."

Mr. S. "Yes, sir, the school is well enough, but the curriculum is defective."

New trustee: "What, the curriculum defective? We must see the architect at once about it and have it raised a few feet higher."—*Ed.*

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21 PARK PLACE, N. Y.

Means of Egress From Schools.

Mr. Robert S. Beetley, Inspector of Buildings at Baltimore, has presented his annual report, in which he gives the result of a careful examination as to the means of ingress and egress in all the schools of Baltimore. He finds that the majority of them have but one stairway for the inmates to make their exit by from the second story; and many of these have the stairs narrow, contracted and tortuous, so that the consequences in case of alarm of fire would be more or less fatal, and might become terrible if egress by a single stair should be cut off by a too close proximity to fire. He suggested that each school-house should have "not less than two stairways leading from the second story; and that these stairways should be situated as remotely from each other as the plan and location of the building would admit—that is to say, where possible, one located at the extreme front, the other at the extreme rear of the building; they should have spacious platforms, about one-half of the height of the story, and the stairway should be wide enough in the clear to allow four children to pass abreast; and they should be furnished with substantial hand rails on each side, and they should land in commodious vestibules having wide doors opening on the outside, to give free egress from the building. Large buildings might be provided with intermediate iron stairways, placed outside the buildings, about midway on each side, so located in their position, where yard space would permit, as to be at least six feet distant from and parallel with the flank walls, their landings being connected by an iron bridge at the upper floor. Thus constructed, no light or air would be cut off from the interior of the building, and but little yard room sacrificed."

Don't Get The Chills.

If you are subject to Ague you must be sure to keep your liver, bowels and kidneys in good free condition. When so, you will be safe from all attacks. The remedy to use is Kidney-Wort. It is the best preventive of all malarial diseases that you can take. See advertisement in another column.

HABIT.—Somebody has been trying his hand on the word "habit," and he works it out thus: "Habit is hard to overcome. If you take off the first letter it does no change a bit." If you take off still another the whole of it remains. You take off another, it is not 't totally used up. All of which goes to show that if you wish to get rid of a habit you must throw it off altogether."

Ozone.

Poughkeepsie, March 24, 1881.
To the Hektograph Co., 24 Church st., N. Y.
Gentlemen—Having used the American Ozone Generator for several days in my school-room, I am fully persuaded it is capable of all that is claimed for it. The atmosphere of the room has been wonderfully changed, and is at all times pleasant and entirely free from all indications of impurities. I have no hesitation in recommending it, especially for schools. In fact, I believe it to be a duty on the part of teachers to avail themselves of such an important aid in correcting the evils arising from vitiated air.

Sincerely yours,

STEWART PELHAM.

It is only a schoolboy who can enjoy bad health; and even he must have it bad enough to keep him out of school.

Nine billion pins were sold in this country last year, and the young gentleman who got his arm entangled around a young lady's waist swears that he knows where they all went to.

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VOCAL DEFECTS.

ROOMS OF

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R. ELLIOTT CLARKE,

SPECIALIST

VOCAL TRAINING.

The course occupies three months (two lessons per week.)

TERMS:

Full Course in Private,	\$50.00
" in Class of 5 Persons,	25.00 each.
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Special Rates to Societies, Schools, and Church Classes.

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1514 CHESTNUT STREET, PHILADELPHIA.

READING.

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VOCAL IMPEDIMENTS.

Day-School Reward Cards.

The special attention of all who encourage and wish to gladden the hearts of the little ones with bright and pretty Reward Cards, is respectfully called to the following beautiful new artistic designs. Please send us a trial order. We pay all postage on cards by mail to any address.

REWARD CARDS, No. 1.—This series includes eight pretty designs with flowers, lilies, roses, etc., printed thus: "For Good Conduct," "Good Lessons," "Industry," "Punctuality," etc., assorted. Price, 8 cents per dozen printed; and 5 cents per dozen unprinted.

REWARD CARDS, No. 2.—An assortment of seven pretty designs with birds, branches and flowers, size 1 1/2 x 3 inches. Price, 8 cents per dozen.

REWARD CARDS, No. 3.—A collection of eight pretty flower bouquet designs, etc., size 1 1/2 x 3 1/2 inches. Price, 7 cents per dozen.

REWARD CARDS, No. 4.—An assortment of seven designs, with pictures of animals, birds, flowers, roses, etc., size 1 1/2 x 3 1/2 inches. Price, 7 cents per dozen.

REWARD CARDS, No. 5.—An assortment of eight floral designs, with miniature bouquets, forget-me-nots, pansies, daisies, bearing word mottoes of "Friendship," "Love," etc., thirty different mottoes, 1 1/2 x 3 1/2 inches. Price 8 cents per dozen.

REWARD CARDS, No. 6.—Ten elegant floral designs, flowers, fuchsias, pansies, butterflies, birds, bees, etc., size 1 1/2 x 3 1/2 inches. Price 8 cents per dozen.

REWARD CARDS, No. 7.—Six beautiful designs for autumn leaves, wild berries, etc. on tinted background, size 2 1/2 x 3 1/2 inches. Price 10 cents per dozen.

REWARD CARDS, No. 8.—Eight pretty designs flowers, leaves, roses budding and in full bloom, on tinted background. This assortment is very nicely executed, size 2 1/2 x 3 1/2 inches. Price 10 cents per dozen.

REWARD CARDS, No. 9.—Seven pretty rose designs, sprays of roses and fine flower designs printed thus: "Reward of Merit," "Presented to," with a blank line for teacher's and scholar's name, size 2 1/2 x 3 1/2 inches. Price 12 cents per dozen.

REWARD CARDS, No. 10.—Six beautiful designs of roses, lilies and fine flowers, size 2 1/2 x 3 1/2 inches. Price 10 cents per dozen.

REWARD CARDS, No. 11.—Six very pretty designs, children with lovely wreaths of flowers, representing the fairy children, beautiful presents for the little children, size 2 1/2 x 3 1/2 inches. Price 10 cents per dozen.

REWARD CARDS, No. 12.—Eight very elegant designs, roses, flowers, leaves and butterflies, are thrown into profusion, highly colored in oil. It is quite impossible to describe these beautiful artistic designs. They are more elegant than represented, size 2 1/2 x 3 1/2 inches. Price 20 cents per dozen.

REWARD CARDS, No. 13.—This series includes six of the richest and most beautiful designs ever published. They are large size with beautiful orange blossoms and more rose designs placed upon the finest gold background, so natural that you feel like picking the roses from the card, size 3 1/2 x 4 1/2 inches. A trial order will convince of their beauty. Price 25 cents per dozen.

REWARD CARDS, No. 14.—Six neatly executed designs on heavy gold background with children peeping from elegant bouquets of the prettiest flowers. A grand artistic design, size 2 1/2 x 4 1/2 inches. Price 25 cents per dozen.

TEACHER'S AIDS. Teachers, please try our "Aids." The best and cheapest thing ever known for conducting school in a quiet and systematic order. Each set of Teachers' Aids contains 12 of the most beautiful chromo cards published, on the back of which is printed, "Excelsior Card: the Highest Approbation Presented to," with blank lines for scholar's and teacher's names. Fifty beautiful chromo cards, on the back of which is printed "Merit Card," equal to five Credits, with blank line for teacher's name. 120 "Credit Cards," with the word "credit" printed on them. Price \$1.50 per set, by mail, postpaid. Teachers, lay aside the rod and try the effect of "Moral Suggestion" assisted by our system of Rewards. Send for a trial set; they will please you. Instructions for use will be sent with every set of Aids.

SAMPLE REWARD CARDS. Samples of all our Reward Cards will be sent to any address by mail, for 12 cents.

YOUR NAME neatly printed on 25 pretty cards for 8c.; Fancy Envelope, 15c.; 25 Basket, 12c.; 25 Flower, 15c.; 25 Blue or Red Ribbon, 15c.; 25 Gold Oval, 15c.; 25 Glass, 15c.; 25 Gold Edge, 15c.; 25 Chromo, 15c.; all in nice card-case. 50 assorted comic Excelsior Cards for 15c.; 50 assorted Comic Envelopes, 25c. Your Business Card nicely printed on 120 sheets note paper, size 5 1/2 x 8, for 8c.; 250 Envelopes, 25c.; 250 sheets Letter Paper, 25c.; 250 Statements, 5c.; 250 Circulars, 5c.; 250 Bill-heads, 4c.; 250 Bus. Cards, 2c.; 250 1/2 x 3 1/2, 2c.; 250 3 1/2 x 5, 2c.; 250 4 1/2 x 6, 2c.; 250 5 1/2 x 7, 2c.; 250 6 1/2 x 8, 2c.; 250 7 1/2 x 9, 2c.; 250 8 1/2 x 10, 2c.; 250 9 1/2 x 11, 2c.; 250 10 1/2 x 12, 2c.; 250 11 1/2 x 13, 2c.; 250 12 1/2 x 14, 2c.; 250 13 1/2 x 15, 2c.; 250 14 1/2 x 16, 2c.; 250 15 1/2 x 17, 2c.; 250 16 1/2 x 18, 2c.; 250 17 1/2 x 19, 2c.; 250 18 1/2 x 20, 2c.; 250 19 1/2 x 21, 2c.; 250 20 1/2 x 22, 2c.; 250 21 1/2 x 23, 2c.; 250 22 1/2 x 24, 2c.; 250 23 1/2 x 25, 2c.; 250 24 1/2 x 26, 2c.; 250 25 1/2 x 27, 2c.; 250 26 1/2 x 28, 2c.; 250 27 1/2 x 29, 2c.; 250 28 1/2 x 30, 2c.; 250 29 1/2 x 31, 2c.; 250 30 1/2 x 32, 2c.; 250 31 1/2 x 33, 2c.; 250 32 1/2 x 34, 2c.; 250 33 1/2 x 35, 2c.; 250 34 1/2 x 36, 2c.; 250 35 1/2 x 37, 2c.; 250 36 1/2 x 38, 2c.; 250 37 1/2 x 39, 2c.; 250 38 1/2 x 40, 2c.; 250 39 1/2 x 41, 2c.; 250 40 1/2 x 42, 2c.; 250 41 1/2 x 43, 2c.; 250 42 1/2 x 44, 2c.; 250 43 1/2 x 45, 2c.; 250 44 1/2 x 46, 2c.; 250 45 1/2 x 47, 2c.; 250 46 1/2 x 48, 2c.; 250 47 1/2 x 49, 2c.; 250 48 1/2 x 50, 2c.; 250 49 1/2 x 51, 2c.; 250 50 1/2 x 52, 2c.; 250 51 1/2 x 53, 2c.; 250 52 1/2 x 54, 2c.; 250 53 1/2 x 55, 2c.; 250 54 1/2 x 56, 2c.; 250 55 1/2 x 57, 2c.; 250 56 1/2 x 58, 2c.; 250 57 1/2 x 59, 2c.; 250 58 1/2 x 60, 2c.; 250 59 1/2 x 61, 2c.; 250 60 1/2 x 62, 2c.; 250 61 1/2 x 63, 2c.; 250 62 1/2 x 64, 2c.; 250 63 1/2 x 65, 2c.; 250 64 1/2 x 66, 2c.; 250 65 1/2 x 67, 2c.; 250 66 1/2 x 68, 2c.; 250 67 1/2 x 69, 2c.; 250 68 1/2 x 70, 2c.; 250 69 1/2 x 71, 2c.; 250 70 1/2 x 72, 2c.; 250 71 1/2 x 73, 2c.; 250 72 1/2 x 74, 2c.; 250 73 1/2 x 75, 2c.; 250 74 1/2 x 76, 2c.; 250 75 1/2 x 77, 2c.; 250 76 1/2 x 78, 2c.; 250 77 1/2 x 79, 2c.; 250 78 1/2 x 80, 2c.; 250 79 1/2 x 81, 2c.; 250 80 1/2 x 82, 2c.; 250 81 1/2 x 83, 2c.; 250 82 1/2 x 84, 2c.; 250 83 1/2 x 85, 2c.; 250 84 1/2 x 86, 2c.; 250 85 1/2 x 87, 2c.; 250 86 1/2 x 88, 2c.; 250 87 1/2 x 89, 2c.; 250 88 1/2 x 90, 2c.; 250 89 1/2 x 91, 2c.; 250 90 1/2 x 92, 2c.; 250 91 1/2 x 93, 2c.; 250 92 1/2 x 94, 2c.; 250 93 1/2 x 95, 2c.; 250 94 1/2 x 96, 2c.; 250 95 1/2 x 97, 2c.; 250 96 1/2 x 98, 2c.; 250 97 1/2 x 99, 2c.; 250 98 1/2 x 100, 2c.; 250 99 1/2 x 101, 2c.; 250 100 1/2 x 102, 2c.; 250 101 1/2 x 103, 2c.; 250 102 1/2 x 104, 2c.; 250 103 1/2 x 105, 2c.; 250 104 1/2 x 106, 2c.; 250 105 1/2 x 107, 2c.; 250 106 1/2 x 108, 2c.; 250 107 1/2 x 109, 2c.; 250 108 1/2 x 110, 2c.; 250 109 1/2 x 111, 2c.; 250 110 1/2 x 112, 2c.; 250 111 1/2 x 113, 2c.; 250 112 1/2 x 114, 2c.; 250 113 1/2 x 115, 2c.; 250 114 1/2 x 116, 2c.; 250 115 1/2 x 117, 2c.; 250 116 1/2 x 118, 2c.; 250 117 1/2 x 119, 2c.; 250 118 1/2 x 120, 2c.; 250 119 1/2 x 121, 2c.; 250 120 1/2 x 122, 2c.; 250 121 1/2 x 123, 2c.; 250 122 1/2 x 124, 2c.; 250 123 1/2 x 125, 2c.; 250 124 1/2 x 126, 2c.; 250 125 1/2 x 127, 2c.; 250 126 1/2 x 128, 2c.; 250 127 1/2 x 129, 2c.; 250 128 1/2 x 130, 2c.; 250 129 1/2 x 131, 2c.; 250 130 1/2 x 132, 2c.; 250 131 1/2 x 133, 2c.; 250 132 1/2 x 134, 2c.; 250 133 1/2 x 135, 2c.; 250 134 1/2 x 136, 2c.; 250 135 1/2 x 137, 2c.; 250 136 1/2 x 138, 2c.; 250 137 1/2 x 139, 2c.; 250 138 1/2 x 140, 2c.; 250 139 1/2 x 141, 2c.; 250 140 1/2 x 142, 2c.; 250 141 1/2 x 143, 2c.; 250 142 1/2 x 144, 2c.; 250 143 1/2 x 145, 2c.; 250 144 1/2 x 146, 2c.; 250 145 1/2 x 147, 2c.; 250 146 1/2 x 148, 2c.; 250 147 1/2 x 149, 2c.; 250 148 1/2 x 150, 2c.; 250 149 1/2 x 151, 2c.; 250 150 1/2 x 152, 2c.; 250 151 1/2 x 153, 2c.; 250 152 1/2 x 154, 2c.; 250 153 1/2 x 155, 2c.; 250 154 1/2 x 156, 2c.; 250 155 1/2 x 157, 2c.; 250 156 1/2 x 158, 2c.; 250 157 1/2 x 159, 2c.; 250 158 1/2 x 160, 2c.; 250 159 1/2 x 161, 2c.; 250 160 1/2 x 162, 2c.; 250 161 1/2 x 163, 2c.; 250 162 1/2 x 164, 2c.; 250 163 1/2 x 165, 2c.; 250 164 1/2 x 166, 2c.; 250 165 1/2 x 167, 2c.; 250 166 1/2 x 168, 2c.; 250 167 1/2 x 169, 2c.; 250 168 1/2 x 170, 2c.; 250 169 1/2 x 171, 2c.; 250 170 1/2 x 172, 2c.; 250 171 1/2 x 173, 2c.; 250 172 1/2 x 174, 2c.; 250 173 1/2 x 175, 2c.; 250 174 1/2 x 176, 2c.; 250 175 1/2 x 177, 2c.; 250 176 1/2 x 178, 2c.; 250 177 1/2 x 179, 2c.; 250 178 1/2 x 180, 2c.; 250 179 1/2 x 181, 2c.; 250 180 1/2 x 182, 2c.; 250 181 1/2 x 183, 2c.; 250 182 1/2 x 184, 2c.; 250 183 1/2 x 185, 2c.; 250 184 1/2 x 186, 2c.; 250 185 1/2 x 187, 2c.; 250 186 1/2 x 188, 2c.; 250 187 1/2 x 189, 2c.; 250 188 1/2 x 190, 2c.; 250 189 1/2 x 191, 2c.; 250 190 1/2 x 192, 2c.; 250 191 1/2 x 193, 2c.; 250 192 1/2 x 194, 2c.; 250 193 1/2 x 195, 2c.; 250 194 1/2 x 196, 2c.; 250 195 1/2 x 197, 2c.; 250 196 1/2 x 198, 2c.; 250 197 1/2 x 199, 2c.; 250 198 1/2 x 200, 2c.; 250 199 1/2 x 201, 2c.; 250 200 1/2 x 202, 2c.; 250 201 1/2 x 203, 2c.; 250 202 1/2 x 204, 2c.; 250 203 1/2 x 205, 2c.; 250 204 1/2 x 206, 2c.; 250 205 1/2 x 207, 2c.; 250 206 1/2 x 208, 2c.; 250 207 1/2 x 209, 2c.; 250 208 1/2 x 210, 2c.; 250 209 1/2 x 211, 2c.; 250 210 1/2 x 212, 2c.; 250 211 1/2 x 213, 2c.; 250 212 1/2 x 214, 2c.; 250 213 1/2 x 215, 2c.; 250 214 1/2 x 216, 2c.; 250 215 1/2 x 217, 2c.; 250 216 1/2 x 218, 2c.; 250 217 1/2 x 219, 2c.; 250 218 1/2 x 220, 2c.; 250 219 1/2 x 221, 2c.; 250 220 1/2 x 222, 2c.; 250 221 1/2 x 223, 2c.; 250 222 1/2 x 224, 2c.; 250 223 1/2 x 225, 2c.; 250 224 1/2 x 226, 2c.; 250 225 1/2 x 227, 2c.; 250 226 1/2 x 228, 2c.; 250 227 1/2 x 229, 2c.; 250 228 1/2 x 230, 2c.; 250 229 1/2 x 231, 2c.; 250 230 1/2 x 232, 2c.; 250 231 1/2 x 233, 2c.; 250 232 1/2 x 234, 2c.; 250 233 1/2 x 235, 2c.; 250 234 1/2 x 236, 2c.; 250 235 1/2 x 237, 2c.; 250 236 1/2 x 238, 2c.; 250 237 1/2 x 239, 2c.; 250 238 1/2 x 240, 2c.; 250 239 1/2 x 241, 2c.; 250 240 1/2 x 242, 2c.; 250 241 1/2 x 243, 2c.; 250 242 1/2 x 244, 2c.; 250 243 1/2 x 245, 2c.; 250 244 1/2 x 246, 2c.; 250 245 1/2 x 247, 2c.; 250 246 1/2 x 248, 2c.; 250 247 1/2 x 249, 2c.; 250 248 1/2 x 250, 2c.; 250 249 1/2 x 251, 2c.; 250 250 1/2 x 252, 2c.; 250 251 1/2 x 253, 2c.; 250 252 1/2 x 254, 2c.; 250 253 1/2 x 255, 2c.; 250 254 1/2 x 256, 2c.; 250 255 1/2 x 257, 2c.; 250 256 1/2 x 258, 2c.; 250 257 1/2 x 259, 2c.; 250 258 1/2 x 260, 2c.; 250 259 1/2 x 261, 2c.; 250 260 1/2 x 262, 2c.; 250 261 1/2 x 263, 2c.; 250 262 1/2 x 264, 2c.; 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250 305 1/2 x 307, 2c.; 250 306 1/2 x 308, 2c.; 250 307 1/2 x 309, 2c.; 250 308 1/2 x 310, 2c.; 250 309 1/2 x 311, 2c.; 250 310 1/2 x 312, 2c.; 250 311 1/2 x 313, 2c.; 250 312 1/2 x 314, 2c.; 250 313 1/2 x 315, 2c.; 250 314 1/2 x 316, 2c.; 250 315 1/2 x 317, 2c.; 250 316 1/2 x 318, 2c.; 250 317 1/2 x 319, 2c.; 250 318 1/2 x 320, 2c.; 250 319 1/2 x 321, 2c.; 250 320 1/2 x 322, 2c.; 250 321 1/2 x 323, 2c.; 250 322 1/2 x 324, 2c.; 250 323 1/2 x 325, 2c.; 250 324 1/2 x 326, 2c.; 250 325 1/2 x 327, 2c.; 250 326 1/2 x 328, 2c.; 250 327 1/2 x 329, 2c.; 250 328 1/2 x 330, 2c.; 250 329 1/2 x 331, 2c.; 250 330 1/2 x 332, 2c.; 250 331 1/2 x 333, 2c.; 250 332 1/2 x 334, 2c.; 250 333 1/2 x 335, 2c.; 250 334 1/2 x 336, 2c.; 250 335 1/2 x 337, 2c.; 250 336 1/2 x 338, 2c.; 250 337 1/2 x 339, 2c.; 250 338 1/2 x 340, 2c.; 250 339 1/2 x 341, 2c.; 250 340 1/2 x 342, 2c.; 250 341 1/2 x 343, 2c.; 250 342 1/2 x 344, 2c.; 250 343 1/2 x 345, 2c.; 250 344 1/2 x 346, 2c.; 250 345 1/2 x 347, 2c.; 250 346 1/2 x 348, 2c.; 250 347 1/2 x 349, 2c.; 250 348 1/2 x 350, 2c.; 250 349 1/2 x 351, 2c.; 250 350 1/2 x 352, 2c.; 250 351 1/2 x 353, 2c.; 250 352 1/2 x 354, 2c.; 250 353 1/2 x 355, 2c.; 250 354 1/2 x 356, 2c.; 250 355 1/2 x 357, 2c.; 250 356 1/2 x 358, 2c.; 250 357 1/2 x 359, 2c.; 250 358 1/2 x 360, 2c.; 250 359 1/2 x 361, 2c.; 250 360 1/2 x 362, 2c.; 250 361 1/2 x 363, 2c.; 250 362 1/2 x 364, 2c.; 250 363 1/2 x 365, 2c.; 250 364 1/2 x 366, 2c.; 250 365 1/2 x 367, 2c.; 250 366 1/2 x 368, 2c.; 250 367 1/2 x 369, 2c.; 250 368 1/2 x 370, 2c.; 250 369 1/2 x 371, 2c.; 250 370 1/2 x 372, 2c.; 250 371 1/2 x 373, 2c.; 250 372 1/2 x 374, 2c.; 250 373 1/2 x 375, 2c.; 250 374 1/2 x 376, 2c.; 250 375 1/2 x 377, 2c.; 250 376 1/2 x 378, 2c.; 250 377 1/2 x 379, 2c.; 250 378 1/2 x 380, 2c.; 250 379 1/2 x 381, 2c.; 250 380 1/2 x 382, 2c.; 250 381 1/2 x 383, 2c.; 250 382 1/2 x 384, 2c.; 250 383 1/2 x 385, 2c.; 250 384 1/2 x 386, 2c.; 250 385 1/2 x 387, 2c.; 250 386 1/2 x 388, 2c.; 250 387 1/2 x 389, 2c.; 250 388 1/2 x 390, 2c.; 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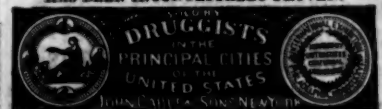


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